

MARINE REVIEW.

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No. 22.

Results of a Collision Between Steel Barges.

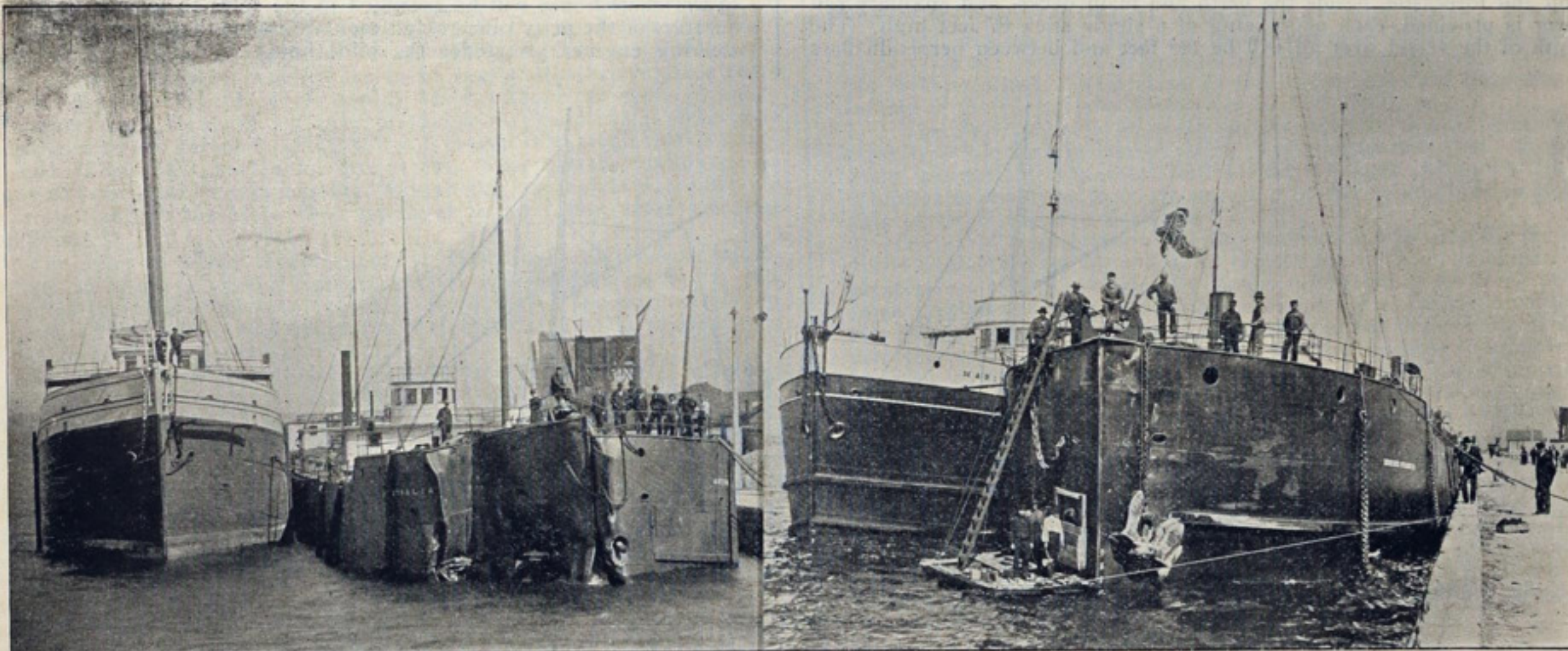
Exceptional interest naturally attaches to the illustrations on this page, from photographs taken at Sault Ste. Marie, showing the condition of the steel schooners Maida and Australia, damaged in collision in the "Soo" river. Repairs to these vessels will involve a large expenditure in both cases. The Maida is now at the yard of the Chicago Ship Building Co., where her bow is being renewed. The starboard side is badly stove in, and the same is true of several plates on the port side. It will also be necessary to remove the stem and have it faired up in the shop. Damages have been sustained by a total of thirty-five shell plates, and of this number twelve will have to be renewed. All the frames from the collision bulkhead to the stem will have to be removed and in all probability renewed. The forecastle floor, forecastle head and chain locker deck plating, stringers and beams are badly bulged, while the side stringers, stanchions and hawsepipes in the peak have been destroyed. This damage, of course, affects the windlass, towing chock, bitts and all castings around the forecastle and increases the repair work considerably. Probably two weeks will be required for its completion.

The Australia is at Duluth and is reported to be in even worse shape

New Marine Insurance Institute.

The announcement from New York, a few days ago, of the formation of an organization to be known as the American Institute of Marine Underwriters has caused some speculation among lake vessel owners as to the future of marine insurance on the lakes. It is well known that for some time past the managers of both English and American companies have been complaining of the lake business, and it was said that the recent meetings of underwriters in New York would result in a combination being formed that would maintain rates on marine insurance generally throughout the lakes. With a view to learning something of the object of the new institute, the Review made inquiry of the president, Mr. Chas. Platt of the Insurance Company of North America, which has its principal office in Philadelphia. Mr. Platt's reply was as follows:

"It is true that several meetings have been held in New York for the purpose of considering the present condition of marine insurance with a view to devise measures for its improvement. These meetings have resulted in the formation of the American Institute of Marine Underwriters, but this organization is in no sense a combination, and is mainly designed for social purposes, and for the discussion of subjects of mutual interest,



STEEL BARGES AUSTRALIA AND MAIDA AFTER COLLISION IN THE SAULT RIVER.

than the Maida. Three weeks is the lowest estimate of time required for her repairs.

The steamer Vega which was driven ashore on Lake Superior with the disabled steamer Bulgaria and had to be lightered off the rocks, is also undergoing repairs at Duluth. In her case about eighty plates will have to be taken off, but most of them can be re-rolled and put back.

Paying for a Ship Building Industry.

An epoch in the history of Japanese ship building has just been marked by the launching of the Hitachi, a large steel steamer, at the yard of the Mitsubishi Dock Yard Co. The vessel, which has been built for use on the Yokohama-London line of the Japan Mail Steamship Co., is 462 feet in length, 49 feet 2 inches beam, and 33 feet 6 inches depth, with an average draft of 25 feet. She has a displacement of 11,600 tons; gross tonnage of 6,150 tons, and freight capacity of 7,150 tons. The engines are twin triple expansion, with four boilers of 3,500 indicated horse power. The vessel has a steel hull with three decks and is expected to attain a speed of 14 knots. The government mail subsidy requires the company to have the vessel constructed with a view to armored cruiser service if needed.

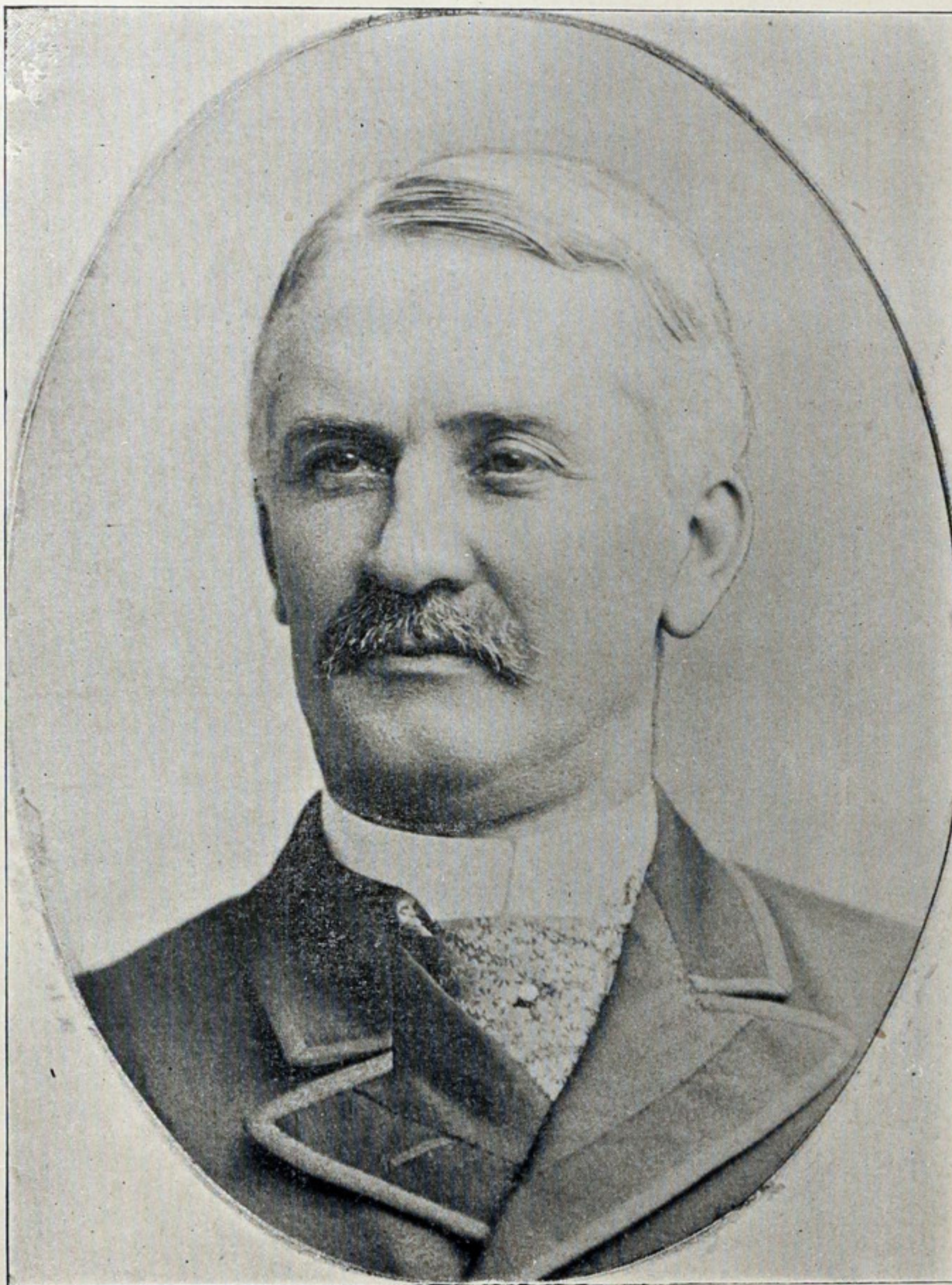
The Mitsubishi company engaged the best talent obtainable for the construction of this vessel, the supervision of work being entrusted to men of long experience in English and American yards. The cost of the vessel was also in excess of what the vessel might be purchased for in any of the leading ship building countries, but the object was to stimulate Japanese ship building, and the extra cost was paid on that account.

Reports just submitted to members of the American Iron & Steel Association show that the total production of open-hearth steel in the United States in 1897 was 1,631,843 gross tons, against 1,298,700 tons in 1896, an increase of 333,143 tons, or over 25 per cent. Although our open-hearth steel industry is growing rapidly, it is still a long way behind that of Great Britain. Our great steel rival produced 2,317,555 tons of open-hearth steel in 1896 and 2,601,806 tons in 1897. The production of both Bessemer and open-hearth steel in the United States during 1897 aggregated 7,107,158 gross tons, against 5,218,606 tons in 1896, so that the total steel output was nearly 40 per cent. greater last year than in 1896.

such as rates of premium, conditions, etc. It has nothing whatever to do with the lake business, nor to the best of my knowledge and belief was the lake business even mentioned in the meetings. I fully agree with you that it would be to the advantage of all parties to have rates well maintained, and I hope that the good sense of those engaged in the business will bring about this desirable state of affairs. In common with other underwriters, all that we desire is a fair profit on our business, and this, as you well know, has not been of late years secured on the lakes. Should you desire any further information it will give me great pleasure to give it to you, but as yet the American institute is in its infancy and it is difficult to outline its future course of action."

Officers of the institute are: President, Charles Platt of Philadelphia; vice-president, A. A. Raven; secretary, L. A. Wight, and treasurer, A. Q. Macdonald. Following are the names of prominent insurance men present at the New York meeting at which the foregoing officers were chosen: Charles Platt, Clayton Platt, A. J. Jeremiah and William E. Hall of the Insurance Company of North America; A. A. Raven, president of the Atlantic Mutual Insurance Co.; Herbert Appleton, attorney for the United States Lloyds, Indemnity, Mutual, Reliance and Standard; H. Fuller, vice-president of the Boston Marine Insurance Co.; Joseph Hadley of the Fireman's Fund Insurance Co.; E. A. Poole, president China Mutual Insurance Co.; J. B. Branch, vice-president, and W. H. McGee, agent of the Providence-Washington Insurance Co.; L. A. Wight of the British & Foreign Marine Insurance Co.; A. J. Macdonald, manager, Thames & Mersey Insurance Co.; James A. Whitlock of the Union Marine Insurance Co.; William Gow and H. T. Pearse of the London Assurance Corporation; J. J. Riley of the Mannheim Insurance Co., and M. Grundner of the General Marine Insurance Co.

John H. Galwey, who some weeks ago resigned as supervising inspector of steam vessels for the eighth district and was succeeded by Capt. Charles H. Westcott, has been appointed local inspector of boilers at Detroit with a salary of \$1,800 per year. This appointment would indicate that officials of the steamboat inspection service intend to make the civil service provision an actuality. Mr. Galwey, who was appointed supervising inspector under a democratic administration, now takes the civil service examination for the local inspectorship and is appointed to fill a vacant place.



JOHN F. PANKHURST.

Lighting of Grosse Point Channel.

Major M. B. Adams, engineer of the light-house service in charge of the Detroit office, has taken pains to write Capt. Geo. P. McKay of the Lake Carriers' Association very fully on the subject of lighting the dredged channel at the foot of Lake St. Clair. Capt. McKay gives out the correspondence with a view to having vessel masters understand the situation, and he asks that they write him on the subject in order that their views may be presented to the light-house officials. It will be noted that the present system of lights is not permanent, and that there seems to be a difference of opinion between Major Adams and the inspector of the district, who is a naval officer, as to whether range lights or a side-light system is preferable for the channel. Capt. McKay has maintained, on behalf of the vessel interests, that the side lights are preferable and he is further of the opinion that there is always more or less difficulty when range lights must be depended upon for long stretches of narrow channel. He wrote the light-house board a short time ago on this subject, referring to accidents that have occurred in the vicinity of Grosse point. The letters from Major Adams that follow are the outcome of this correspondence. Major Adams says:

"Your letter to me of recent date and a copy of one you wrote to the light-house board, dated May 24, both relative to the lights at the foot of the Lake St. Clair dredged channel, are received. It is observed that the accidents named in your letter to the board all occurred before the present system of lights was in full operation, and with the exception of the accident to the Algeria, April 16, when the cut was lighted by the two side lights, the light vessel and the gas buoy. The present lights went into operation fully on the 19th of April, and partly on April 15. Regarding the two methods of permanently lighting this channel, I send a copy of a letter of mine to the board, dated April 8, in which the two systems are compared. It would seem that the number of lights required to carry the side-light system throughout the entire length of the dredged channel, is too great to warrant the adoption of that system, and that two sets of ranges with the addition of one or two side lights, possibly about at mid-length of the channel, ought to meet the necessities of the case. Of course, these permanent ranges would have to be higher than the present temporary lights, so that they could readily be seen above the decks of intervening vessels. Recently, the present ranges at Peach island were provided with much stronger lights, and it is hoped that much that is complained of will be removed by this means. Please make inquiry of as many of your masters now passing through the channel as you conveniently can, and let me know their views, as to the lights, under existing conditions."

The letter of Major Adams to the United States light-house board, referred to in the foregoing communication, is printed herewith. It will be noted that this letter was written in April, before the channel was in general use this season, and before the complaints now being printed from vessel masters were received:

To the Light-House Board, Washington, D. C.—Sirs: Acknowledging the receipt of board's letter of April 5, 1898, with inclosures, relating to a system of lights for the 20-foot channel, Lake St. Clair, I beg to state that the recommendations by the inspector of the eleventh light-house district appear to have reference to a permanent system of lights, and also that he appears to have lost sight of the fact that the dredged channel extends entirely across Lake St. Clair. To be sure, the portions near the middle of the lake are only 18 inches to 2 feet deeper than the lake proper, but in a short time, doubtless, the larger vessels will require the full depth afforded, and will not be able to wander from the dredged channel at any part of its entire length. When the vessels are loading deeper, so as to demand all the water afforded by the dredged channel, it will be very necessary to indicate the point $4\frac{1}{2}$ miles from the ship canal, and $10\frac{1}{2}$ miles from the extreme lower end of the channel, since a decided change of direction takes place there; indeed a light at this point would then seem to be of prime importance. If the rear light on the canal, i. e., the upper light, were raised somewhat, so as to be readily seen over the front light, and if ranges were placed near the point of change in the direction of the channel, so that the front one would be at the edge of the reach extending towards the canal, and at the same time so as to be on the axis of the reach extending down the lake, and if the rear one were sufficiently removed to render the range sensitive, it would seem that such lights, together with the ranges near Peach island, at the other end of $10\frac{1}{2}$ -mile reach, would afford an adequate system of lighting that would be in consonance with other systems in these waters.

Regarding the inspector's scheme, it will please be noticed that, to extend that system across the lake, if alternating lights were used on opposite sides of the channel, at $1\frac{1}{2}$ -mile intervals, ten lights would be required, and if they were placed two and two opposite each other, at the second, fourth, etc., positions, as recommended, fifteen lights would be required. As to the bell, its importance is not apparent, since Windmill point, Belle Isle and other points above and below are without signals; indeed, if one of the sidelights, as above, required a bell, it would be difficult to select that one of the ten or fifteen lights most in need of it.

If the question was one of providing the best system of lights, regardless of cost, a chain of lights as above, or such lights combined with axial ranges, would doubtless be superior to the axial ranges alone, but as long as the question is one of providing an adequate system at reasonable cost, then the axial system appears to be superior. It might prove necessary to add one or two side lights at the middle point of the $10\frac{1}{2}$ -mile reach, to supplement the axial ranges, but even then there would only be five or six lights in the axial system, as compared with ten or fifteen lights in the other system. There has been no complaint whatever that has reached me, and I therefore feel justified in saying there has been no general complaint, as to the inadequacy of the axial range system of lighting the channels in these waters. The inspector certainly implies that the system is so imperfect as to demand that side lights be substituted wherever the ownership of the territory by the United States will allow such changes to be made. Permit me to say, I disagree with such a proposition. The navigators themselves, i. e., those men who are masters of the larger boats, would be pretty sure to make themselves heard if the axial range light system of guiding their boats was a failure, or even if it was slightly inadequate so as to demand improvement. As a matter of fact, the axial

range light system has some decided advantages over a side light system. I will instance the case of a wind setting a boat abeam; if running on axial ranges, the fact is at once apparent, but if side lights are the guide, there is no means of knowing the amount of the drift until the boat is sometimes dangerously near the bank at the edge of the channel.

There is little force in the argument regarding the placing of side lights at Middle Neebish channel, and, indeed, I may say that the statement in this connection is possibly misleading. It might be inferred therefrom that the side lights were an after-thought rendered necessary by the inadequacy of the axial ranges; whereas the entire system of side lights and axial ranges was conceived and executed together. Owing to the current at this channel (about 4 miles), to the narrowness of the channel (300 feet) and to the rockbound character of its edges, the combined system of axial ranges and side lights was adopted. As to mistaking the axial ranges for vessel lights, and their obscuration by smoke, it is believed that the binary lights, proposed, will afford a sufficiently distinguishing characteristic and that the smoke question is one that applies to the side lights as well as to the axial range lights, but it is not very serious in either case. As to the larger boats obscuring the ranges, it is manifest that the boats would be well in the center of this wide channel (800 feet wide) as long as the ranges are obscured, and that a slight departure from the axis would reveal the lights and the approximate amount of the departure.

M. B. ADAMS,

Major of Engineers, U. S. A., Light-House Engineer.
Detroit, Mich., April 6, 1898.

Little Profit in Government Work.

It is not probable that lake ship builders will submit bids for the construction of any of the torpedo boats or torpedo boat destroyers provided for in the naval appropriation bill. The hasty issue of circulars giving general requirements for these twenty-eight vessels—sixteen torpedo boat destroyers and twelve torpedo boats—indicates the determination of the navy department to hurry their construction. The department will probably be prepared to let contracts before Great Britain's position on the question of building any of the torpedo boats on the lakes can be determined. In speaking of the matter Assistant Secretary R. L. Ireland of the Globe Iron Works Co., of Cleveland, said:

"The government is in possession of full information regarding the capacity of the various lake yards for work of this character. If the contracts are not let very soon, and should the work in our yard be in a condition to enable us to do so, we will probably submit bids on two, possibly three, of the torpedo boats."

The naval appropriation bill also contains a provision for the expenditure of \$260,000 for a gunboat to replace the U. S. S. Michigan on the great lakes, with a provisional clause necessitating its construction at some yard on the lakes or contiguous waters. Mr. Ireland, in discussing this feature of the bill was very outspoken in his declaration of opinion that the appropriation is insufficient for the purpose desired. "Not having seen the specifications," he said, "I am not in a position to speak positively, but I doubt very much if the appropriation is sufficient. Certainly if the government expects relatively as much for its \$260,000 as it did for \$200,000 in the case of the revenue cutters now building at our yard we would not bid. Under present conditions and with the prevailing tendency in appropriations, there is no money in government contracts. We were practically the only bidders on the two revenue cutters now building here and we were enabled to submit the figures which we did simply because we could effect a saving by reason of our possession of the patterns of engines, etc., from the Gresham. Even with these favorable circumstances our profit on the contract will be infinitesimal."

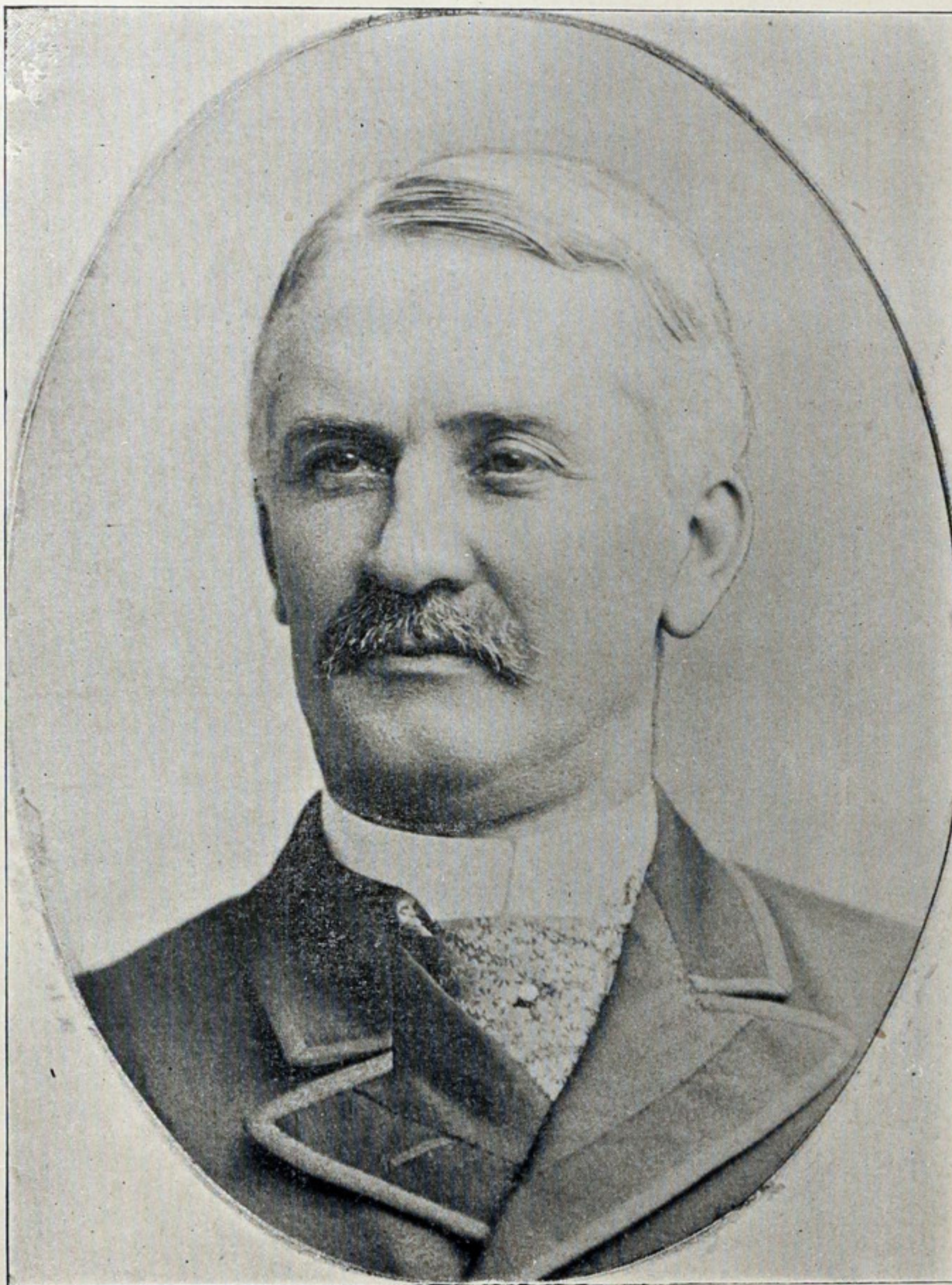
The Three New Battleships.

Additional particulars have just been given out by the navy department regarding the three battleships authorized by the naval appropriation bill recently passed, and whereby provision is also made for four coast defense monitors, sixteen torpedo boats, twelve torpedo boat destroyers and a gunboat to replace the U. S. S. Michigan on the great lakes. The limit of cost placed on the battleships is \$3,000,000 each, exclusive of the expenditure necessary for armor and armament. Heretofore the limitation of cost has been somewhat higher, as the cost of armor was included, the navy always building its own guns.

Proposals have been invited under two classes, the first on the departmental plans and specifications, and the second upon designs to be furnished by the bidders, which must, however, fully cover certain limitations laid down by the board of construction. The new vessels will be in detail almost identical with the Illinois, Wisconsin and Alabama, now building at Newport News, San Francisco and Philadelphia respectively. The specifications provide for vessels of 11,500 tons displacement, with coal capacity of 1,200 tons, on a mean draught of 23 feet, a length of 368 feet, and 72 feet beam. The hull will be of steel with double bottoms and close water-tight subdivisions, with ample freeboard and berthing accommodations on decks above water. There will be no sails, but two military masts with fighting tops. Two lifeboats will be carried so as to be rapidly lowered in all conditions of weather. The side armor belt will be $7\frac{1}{2}$ feet broad, $16\frac{1}{2}$ inches thick through engine and boiler spaces, tapering to a thickness of 4 inches at bow and stern, and there will be transverse armor forward and aft 12 inches thick.

Each vessel will be driven by twin screws, with two vertical, triple-expansion, four cylinder engines, one on each shaft, and in separate water-tight compartments. There will be eight cylindrical single-end boilers, with a working pressure of 210 pounds, in four separate water-tight compartments. The weight of the machinery is limited to 1,130 tons. The vessels are to be completed within two and a half years under heavy penalties in the event of failure. Accommodations must be arranged for a complement of 500 officers and men. The turrets and ammunition hoists are to be operated by electricity. A speed of 16 knots is required with heavy penalty for any deficiency, and if either vessel fails to make 15 knots she may be rejected altogether.

One-Fare Sunday Excursions.—Tickets are on sale from all stations on Nickel Plate road.
65, June 30



JOHN F. PANKHURST.

Death of John F. Pankhurst.

Just as the Review goes to press, announcement is made of the death of John F. Pankhurst, vice-president of the Globe Iron Works Co. and one of Cleveland's prominent citizens. Mr. Pankhurst had been in very poor health for a long time past. He only recently returned from the south. He seemed improved upon coming home, and his friends were in hope that as he had fought so long and hard against a most severe physical breakdown, he might be spared for a few years of rest and comfort, if not for a return to business.

John Pankhurst had much to do with the development of the steel ship building industry on the lakes. With Henry D. Coffinberry and Robert Wallace, now of the Cleveland Ship Building Co., he engaged in a long struggle with vessel owners to secure the first orders that resulted in replacing wooden ships by the magnificent fleet of steel cargo carriers that are now found everywhere in the lake region. Mr. Pankhurst was born in Cleveland March 28, 1838, and was therefore just past his sixtieth year. He attended the public schools of Cleveland until he was seventeen years of age, when he found it necessary to seek employment, but his evenings were given to the study of engineering and mechanics, which he continued for five years. His first business venture was in a small machine shop, conducted by the firm of Wallace, Pankhurst & Co. Then came the Globe Iron Works, in which Messrs. Robert Wallace, Henry D. Coffinberry and John F. Pankhurst were jointly interested. The separation of these gentlemen in 1886, after they had built a few steel vessels, was followed by the formation of Cleveland's two big ship building concerns, the reorganized Globe Iron Works Co. and the Cleveland Ship Building Co. Mr. Pankhurst was joined by the Messrs. Hanna and Luther Allen of Cleveland in the Globe Iron Works Co. and up to a short time ago he was the active manager of that company's affairs.

One of the Best of the Revenue Cutters.

The builders' trial of the U. S. revenue cutter Algonquin in the lake opposite Cleveland last Thursday was eminently satisfactory to officials of the Globe Iron Works Co. and also to the representatives of the government. Among the officials of the revenue cutter service aboard during the trial were Capt. J. W. Collins, Assistant Engineer George Farkell, Capt. D. A. Hall, First Lieutenant J. H. Quinan, J. E. Jeffries and John R. Dally. Mr. Dally has been assigned to the position of chief engineer of the Algonquin.

The trip, being a builders' rather than a governmental trial, was entirely under the direction of Supt. R. L. Newman of the Globe company. The Algonquin left her dock at 9 o'clock in the morning, and with the exception of a few minutes' delay at the commencement of the run for the adjustment of some loose bearings, steamed continuously for eight hours. The highest speed attained, 18.4 knots, equivalent to 20.8 statute miles, would seem to demonstrate the practical certainty of the vessel attaining a speed of 19 knots per hour when fully manned. One reason for the failure to attain a higher speed on the occasion of this test is found in the fact that the boilers were not clothed with non-conducting material, and there was in consequence considerable radiation. Moreover, an inferior kind of coal was used, and there were not on board a sufficient number of competent firemen.

The machinery worked smoothly and without a hitch, and at the maximum speed of 162 revolutions scarcely any vibration could be felt on the main deck. The regular final trial, which is required to be of twelve hours' duration, will take place between Cleveland and Ogdensburg. The builders have agreed to deliver the vessel at Ogdensburg where she will be cut in two just forward of the forward boiler compartment and pontooned through the canals of the St. Lawrence to Montreal, where the Globe company will put her together again. The navy department has urged that both the Algonquin and Onondaga, also building at the Globe yards, reach the Atlantic coast as expeditiously as possible, as it is desired to utilize them as torpedo boats. The superiority of speed of the Algonquin to the Gresham, which on her official trial only developed 18.25 knots, is attributed to the fact that the former vessel has with the same horse power 70 tons less displacement.

In armament the Algonquin will be superior to the Manning and McCulloch, coast revenue cutters. The coast vessels are fitted to carry three 4-inch rifles, a six-pounder and six machine guns, while the Algonquin will carry an additional 4-inch rifle.

Capt. Hall, who superintended the construction of the hull of the Algonquin, expressed himself as especially pleased with the working of the steam steering gear, which is of the type manufactured by the Globe company. The vessel handled promptly under the steering gear.

Heavy Coal Contracts.

The volume of business in coal, ore and grain, and in fact in nearly all lines of lake trade, is undoubtedly heavier than at this time of year in any previous season, but it is so generally covered by contracts, and by the ships of the big corporations, that the lake freight market is lifeless. A representative of one of the largest ore concerns in Cleveland says that his firm moved more ore up to June 1 of this year than they had moved up to June 15 last year. This was due to the earlier opening of navigation. Very close to 1,000,000 tons of soft coal to go to the head of Lake Superior has been covered by contracts, all but a few of which are at 20 cents. The total movement of soft coal to all Lake Superior ports last season was 2,492,973 tons. About 75 per cent. of this amount, or 1,800,000 tons, went to the head of Lake Superior, the balance going to Portage, Marquette and other places. It will thus be seen that the amount of coal for the head of the lakes covered by contract is much larger than that which is left for "wild" charters. Ore rates are unchanged at 50 cents from Lake Superior ports and 40 cents from Escanaba, and all coal charters are made at 20 cents.

Oak Point beach and other picnic groves on Nickel Plate road for church, Sunday school, societies, clubs and camping parties—Committees desiring special train service for Oak Point beach or other pleasure groves may secure information by calling on agents or addressing the general passenger agent, Nickel Plate road, Cleveland, O.

54—June 30

Extensive Harbor Works at Cleveland.

Col. Jared A. Smith, United States engineer at Cleveland, is about to let contracts that will make Cleveland harbor a very busy place after July 1. The work of rebuilding the west breakwater has been under way for some time past, and a contract was let recently for the foundation of about 3,000 feet of east breakwater extension. Now the government is prepared to let a contract for the superstructure or top of this east breakwater, for construction of the new west pier, for removal of the old west pier and for the dredging involved in the wider harbor entrance that is to be secured through the rebuilding of the piers. It is understood that there is something more than \$600,000 available under the continuous contract appropriations for these several works. Specifications for the breakwater superstructure and for the west pier have just been issued and bids will be opened on the 23d inst.

The part of the west pier to be constructed under these specifications covers a length of 1,440 feet. The pier will consist of a foundation of small pieces of quarried stone, supporting a structure of timber cribs filled with stone, on which will be placed a superstructure of concrete, or of concrete and stone. After the new west pier has been completed, the old pier, from its outer end to a point opposite the inner end of the new pier, is to be entirely removed, and the channel between the east pier and the new west pier is to be dredged to a depth of 20 feet at mean lake level. The total of old pier to be removed is about 1,540 feet. The work covered in the completion of the east breakwater consists in constructing about 3,000 linear feet in extension of the present east breakwater to the eastward. A length of about 1,000 feet is upon the same alignment as the part heretofore completed; the direction is then changed through an angle of 26 degrees toward the shore, and the work continued a further distance of 2,000 feet. The work will consist of twelve straight cribs, each 216 feet long; one angle crib 216 feet long, and one terminal crib 262 feet long. The work will be supported on the foundation of stone, the contract for the construction of which has already been let. The contractor will be required to make such repairs to the present stretch of east breakwater as may be found necessary.

The dredging required for the west pier and channel is estimated at 140,000 cubic yards. The material required to build the west pier is estimated to include 2,277,222 feet of hemlock, white pine and white oak timber; 26,500 tons of stone and 43,368 cubic feet of concrete or stone blocks. Among the material required for the east breakwater extension is 5,000,000 feet of hemlock timber, 2,690,000 feet of white pine, 108,500 tons of stone and 25,000 tons of riprap stone.

F. W. Wheeler & Co. Give Up.

F. W. Wheeler & Co. of West Bay City, Mich., announce in a circular just sent out to their creditors that they hardly expect to be able to continue business in any way after the completion of the three steel vessels now under construction for the Bessemer Steamship Co. It has been quite generally understood that the management of the Bessemer Steamship Co., representing John D. Rockefeller, has had from the beginning of work on the three new vessels at West Bay City an arrangement whereby they controlled all expenditures for material and labor entering into these vessels and were practically using the Wheeler ship yard for their construction. This arrangement was entered into by the Wheeler company on account of their embarrassment of several months ago, when they were compelled to issue bonds to their creditors. The Bessemer company is now to take charge of the yard and complete the vessels, but as yet nothing has been given out as to the plan of procedure regarding other creditors. The only definite announcement is the following circular, issued from West Bay City, Tuesday, immediately after it had been announced that an assignment had been made to H. P. Wickes of Saginaw:

To the Creditors of F. W. Wheeler & Co.—There was an unexpected turn in our affairs last Saturday that demands that we should make an explanation to you. The only work we now have on hand is the construction of three boats for the Bessemer Steamship Co., and which we expected to complete in about sixty days. Last Saturday was our pay day, and we had in the bank \$27,000 with which to meet our pay roll and certain other bills, but when we were ready to use it for that purpose we found that the bank had applied the whole of the money to the payment of certain demand notes of ours which it held. This placed us where we were unable to proceed with the work, and so the Bessemer Steamship Co. took possession of our yard under a clause of their contract which they claimed they had a right to do if we suspended work.

We expect that the Bessemer Steamship Co. will go on and complete these boats, utilizing all the materials that we have purchased for that purpose. We will not know for a few days just what the exact plans of procedure will be on their part, as the principal officers of the company are holding a meeting this week in Cleveland to determine, but we are instructed by them to assure you that nothing will be done in the meantime to jeopardize the rights of any creditor, and that the affairs will remain strictly in statu quo till a decision is reached. The result of this will be to so injure the already impaired credit of this company that we hardly expect to be able to continue business after the completion of these boats.

F. W. WHEELER & CO.

West Bay City, Mich., May 31, 1898.

It is now reported from Philadelphia that the contract obtained by Charles H. Cramp from the Russian government calls for the construction of ten torpedo boat destroyers, in addition to the first-class battleship and first-class cruiser. The vessels are to be finished at Cramp's with armament complete and turned over to the Russian government ready for action. The amount of the contract is given as \$15,000,000.

Since April 1, 172 locomotives have been ordered in this country for export. This includes an order for seventy-seven for the Trans-Siberian & Chinese Eastern Railroad just booked by the Baldwin works of Philadelphia, and an order for seventeen to go to the Finland State Railroad, which was closed several days ago by the Richmond Locomotive & Machine Works.



DEVOTED TO LAKE MARINE AND KINDRED INTERESTS.

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The books of the United States treasury department on June 30, 1897, contained the names of 3,230 vessels, of 1,410,102.60 gross tons register in the lake trade. The number of steam vessels of 1,000 gross tons, and over that amount, on the lakes on June 30, 1897, was 399, and their aggregate gross tonnage 769,366.68; the number of vessels of this class owned in all other parts of the country on the same date was 314, and their tonnage 685,709.07, so that more than half of the best steamships in all the United States are owned on the lakes. The classification of the entire lake fleet on June 30, 1897, was as follows.

	Number.	Gross Tonnage.
Steam vessels	1,775	77,235.45
Sailing vessels and barges.....	1,094	294,888.87
Canal boats	561	37,978.28
Total	3,230	1,410,102.60

The gross registered tonnage of the vessels built on the lakes during the past five years, according to the reports of the United States commissioners of navigation, is as follows:

Year ending June 30, 1893.....	175	99,271.24
" " " 1894.....	106	41,984.61
" " " 1895.....	93	36,352.70
" " " 1896.....	117	108,782.38
" " " 1897.....	120	116,936.98
Total	611	403,327.91

ST. MARY'S FALLS AND SUZ CANAL TRAFFIC. (From Official Reports of Canal Officers.)

	St. Mary's Falls Canals.			Suez Canal.		
	1897	1896	1895	1897	1896	1895
Number of vessel passages.....	17,171	18,615	17,956	2,986	3,409	3,434
Tonnage, net registered.....	17,619,933	17,249,418	16,806,781	7,899,374	8,560,284	8,448,883
Days of navigation.....	234	232	231	365	365	365

Some of the English newspapers are criticising unmercifully the prospectus of Messrs. Peterson, Tate & Co., who are to furnish a fast Atlantic mail service for Canada. The claim is made in the prospectus that the new line will carry at least 33,280 passengers annually, which would be double the number of passengers now carried. One prominent argument put forth by the new company is that the mouth of the St. Lawrence is 860 nautical miles nearer to Liverpool than New York, and the sea voyage will thus be shortened to three and a half days. As finally arranged, the government contract for this service provides for four 10,000-ton 21-knot steamships, capable of maintaining an average sea speed of 500 knots daily, to carry between 1,500 and 2,000 tons of cargo, with accommodations for 500 tons of cold-storage cargo, and with accommodations for 300 first-class, 200 second-class and 800 steerage passengers. These ships are to cost \$2,500,000 each, or \$10,000,000 all told. Each ship of the line is to carry 150 immigrants at \$15 a head whenever they offer. This is \$10 a head less than the present rate, and it is expected that the reduction will cause a rate war between the fast mail line and the Allan, Dominion and Beaver lines already established.

It is said that Hon. Lyman J. Gage, secretary of the treasury, proposes a change in the customs regulations that will require vessels to make a full report of freight taken on or discharged every time they enter or leave port in the coastwise trade of the lakes. This proposed amendment in the customs laws is prompted by a recent report from the treasury department to congress, prepared by Mr. G. G. Tunell of Chicago, in which it was shown that great difficulty attends the collection of statistics of lake commerce under the present laws. These statistics are very much desired by everybody interested in lake shipping, but the secretary of the treasury must devise some plan of collecting them other than that of compelling vessels to report every time they take on or discharge cargo. All of the managers of package freight lines would oppose such a law, as they have in the past, on the ground that delays to their vessels while preparing such reports and in hunting up collectors of customs would work greatly to their disadvantage. But it would seem that these objections could be overcome through reports from dock agents, if the treasury department is in earnest about settling this question of statistics of lake commerce.

By far the greater number of storms that pass over the lake region in June come from the northwest. The storms of June are not so severe as those of late fall and winter. Neither are the outward signs of their approach precisely the same. The dangerous winds of summer are the squall winds which accompany thunderstorms. They last but a short time, and their coming can almost always be foretold by the appearance of the western sky. The barometer is unsteady, rising and falling quite abruptly. The day is generally close and oppressive and the clouds present a broken and heaped up appearance.—United States weather bureau chart for June.

New York representatives of the North German Lloyd Co. have been placed in an awkward position by the sale of the steamship Havel to Spain. The transfer was made in a roundabout way through an Italian concern, but it is quite certain that the vessel was immediately turned over to the Spanish government. This action of the North German Lloyd company is strange, as the American manager is said to have been advised by his

home office that the vessel would not be disposed of unless assurances were given that she would not go to Spain. Spain got her for probably \$400,000.

Lake ship builders are still experiencing unusual delay on account of slow delivery of material from steel mills, but it is expected that this trouble will be over with shortly. It was due largely to the mills being engaged on rush orders from the government for material with which to alter auxiliary naval vessels. This work is now largely at an end, however, and the number of ironworkers seeking employment in private ship yards is also increasing. Some 200 shipfitters, shipsmiths, caulkers, chip-pers and boilermakers were laid off at the Charleston navy yard, a few days ago.

It is said on Wall street that the present earnings of the Great Northern Ry. Co. would justify the payment of the regular 6 per cent. dividend on double the amount of the present stock. The announcement that \$12,500,000 of Seattle & Montana company stock is to be divided among Great Northern stock holders has advanced the stock of the parent company to about 170. With progress of this kind in affairs of their big railway system, the managers of the Great Northern are probably not worried about earnings of their two lake passenger steamers.

It is provided in the naval appropriation bill that there shall be no speed or horse power premiums for the new vessels. Not more than two of the battleships, not more than two of the harbor defense vessels, not more than five of the torpedo boat destroyers and not more than four of the torpedo boats shall be built in one yard or by one contracting party. One of the battleships and one of the harbor defense vessels are to be built on the Pacific coast, but the cost on the Pacific coast is to be not more than 4 per cent. above the lowest accepted bid for other vessels of the same type.

When it was given out, not long ago, that the Pennsylvania Co. had awarded to the Schoen Pressed Steel Co. of Pittsburg a contract for 1,000 steel cars, the order was looked upon as an announcement of confidence in the business outlook from the management of one of America's greatest railway corporations. It is unfortunate that the announcement was premature. The order has not been placed, the Pennsylvania Co. having suspended action on the matter on account of the war with Spain.

A transaction of special interest to the iron trade, negotiated recently by a Philadelphia firm, is the sale by the Nova Scotia Steel Co. of about 70,000 tons of iron ore from Newfoundland to a German furnace company. The ore carries about 52 to 53 per cent. of iron and 0.7 to 0.8 per cent. of phosphorus. It shows how far afield European makers are going for supplies and makes it seem possible that with reasonable rates of freight we may again see American ore go abroad.—Iron Age.

The seventh international congress on navigation will be held in Brussels July 25 to 30, under the patronage of the King of Belgium. The fee for joining the congress is 25 francs, and the general secretary, A. Dufourmy, may be addressed 38 Rue de Louvain. Excursions will be made to various seaports and to the harbor works of Antwerp and Liege, as well as to the John Cockerill works at Seraing.

The Union Iron Works of San Francisco—Pacific coast builders of warships—is showered with congratulations upon the Oregon's trip of 13,000 miles to join the fleet of Admiral Sampson near Cuba. The performance of this ship is a matter of great pride to the nation and especially to our naval architects and marine engineers.

A new freight and passenger steamer of 11,000 tons and 16 knots speed for the Holland-American line was launched recently in Belfast and will arrive in New York on her maiden voyage early in August. Her length is 530 feet, beam 60 feet and depth 43 feet 6 inches. Passenger accommodations are limited to about 350 cabin and 500 steerage.

Captains of sailing vessels all along the Atlantic coast complain of difficulty in securing crews. They claim that the number of men leaving the coast for the lakes this season was much larger than usual. If such is the case, the lake vessel owners are fortunate, as they have had no great surplus of men since the navigation season opened.

The Wm. Cramp & Sons Ship & Engine Building Co. of Philadelphia a few days ago announced a 25 per cent. increase in the wages of its employees, to go into effect at once. Some months ago when the firm was obliged to make a slight reduction, a promise was made that the workmen who faithfully performed their duties would lose nothing in the end.

Among vessels recently purchased by the navy department are the Joseph Holland, Elizabeth Holland, Alexander and Scipio of New York and the German steamer Rhietia. The names of the two Hollands have been changed to the Hannibal and Leonidas, respectively, but the others have not been renamed.

All present indications point to immense grain shipments by lake carriers in the latter part of the season. The high price of wheat has induced farmers throughout the country to plant the seed to the exclusion of other products.

Gen. D. B. Henderson, veteran congressman from Iowa, says: "The greatest effect of the war will be to give attention to the navy. We will have the strongest kind of a navy hereafter, second only to England. As our commerce grows, our navy will grow."

United States Engineer Charles W. Raymond, president of the Deep Waterways Commission, has been promoted to the rank of lieutenant-colonel, succeeding the late Lieut.-Col. W. R. King.

The Russian government is about to build three first-class battleships on the Neva, of 12,675 tons displacement each.

Damages Again Divided.

In the case of the libel of the propeller *Livingstone* to recover damages for the loss of the steamer *Grand Traverse*, Judge Cox of the United States district court, New York, has handed down a decision for a division of damages and costs. The case was argued at Ithaca on April 26. The libel was filed by the Lackawanna Transportation Co. and the Delaware, Lackawanna & Western Railroad Co. against the *Livingstone* and her cargo. The faults against the *Livingstone* averred in the libel are as follows: First, insufficient lights; second, failure to heed the signals of the *Grand Traverse*; third, failure to stop and reverse; fourth, starboarding when the vessels were only a quarter of a mile apart. The libel asked judgment for \$50,000, the value of the *Grand Traverse*, and for \$15,000 as the value of her cargo. To the allegations above recited the Michigan Navigation Co. of Detroit, owners of the *Livingstone*, filed an answer making a denial of all the charges made and alleging in turn that the *Grand Traverse* was at fault. The *Livingstone*, it was asserted, had sustained damage to the amount of \$6,850, constituting a just and equitable claim against the *Grand Traverse*. The Indemnity Mutual Insurance Co. having, as the insurer of the coal lost on the *Grand Traverse*, paid the loss to the Delaware, Lackawanna & Western Railroad Co., intervened as libellant to protect its interest. The collision, of which the suit just decided was the outgrowth, occurred about 5:30 o'clock on the morning of Oct. 19, 1896, on Lake Erie, about a mile northwest of Colchester light, Ontario. The collision occurred in the open lake, with plenty of room in which to maneuver and with nothing in the condition of wind or weather to render navigation difficult.

The court, in rendering a decision, was inclined to take the position that there was negligence on the part of both vessels. The *Livingstone* was condemned for turning to the left when she should have turned to the right. The *Traverse* was held in fault for not having a lookout, for failure to stop and reverse and for other causes. In conclusion the judge said: "The courts should be loath to make any ruling which shall encourage shiftlessness and inattention to duty in the navigation of ships. Only in the plainest cases should the courts take the responsibility of saying that a vessel can violate the law and still be free from fault. The preservation of life and property depends upon the strict observance of rules, and those entrusted with the care of ships should understand that they must be enforced with uniform and absolute certainty. When it is distinctly understood that for carelessness in this respect no excuse will be received the discipline of our merchant marine will be improved and collisions like this will be heard of no more. It follows that there must be a division of damages and costs."

The counsel in the case were Harvey D. Goulder of Cleveland and Franklin D. Locke of Buffalo, for libellants; F. H. Canfield of Toledo, C. E. Kremer of Chicago, and Harvey L. Brown of Buffalo, for the respondent, and John C. Shaw of Detroit for the intervener.

Schedule of Northern Line Passenger Ships.

The Northern Steamship Co. has issued its schedule for this season's sailings of the passenger steamers *North West* and *North Land*. The west-bound schedule (central standard time) is as follows: Leave Buffalo 9:15 p. m., Tuesdays and Fridays; arrive, Cleveland, 7:45 a. m., and depart 9:15 a. m., Wednesdays and Saturdays; arrive Detroit 4:15 p. m. and depart 4:45 p. m., Wednesdays and Saturdays; arrive Mackinac 11:45 a. m. and depart 12:15 p. m., Thursdays and Sundays; arrive Sault Ste. Marie 7 p. m. and depart 7:30 p. m., Thursdays and Sundays; arrive Duluth 6:30 p. m., Fridays and Mondays.

The schedule east-bound follows: Leave Duluth 2:10 p. m., Saturdays and Tuesdays; arrive Sault Ste. Marie 11:40 a. m., and depart 12:40 p. m., Sundays and Wednesdays; arrive Mackinac 7:30 p. m. and depart 8 p. m., Sundays and Wednesdays; arrive Detroit 2 p. m. and depart 2:30 p. m., Mondays and Thursdays; arrive Cleveland 9:30 p. m. and depart 10 p. m., Mondays and Thursdays; arrive Buffalo 9 a. m., Tuesdays and Fridays.

The first sailings from both Buffalo and Duluth are scheduled for Tuesday, June 14; the last sailing from Buffalo Friday, Sept. 9, and from Duluth Tuesday, Sept. 13.

The steamer *North West* will make a special trip from Buffalo to Milwaukee and Chicago previous to the opening of the line. She will leave Buffalo Sunday, June 5, at 10:15 p. m.; leave Cleveland Monday morning at 9:15 o'clock; arrive at Detroit Monday afternoon; Mackinac island on Tuesday afternoon; Milwaukee Wednesday morning, and Chicago Wednesday evening. General Passenger Agent Bortle gives as the object of the trip a desire to show the people of Chicago and Milwaukee the magnificence of the Northern liners, and especially low rates will be made for the trip.

Positions in the Light-house Service.

Commander Franklin Hanford, naval officer in charge of affairs of the tenth light-house district, gives notice that several vacancies exist in positions under the light-house board in that district, which extends from Ogdensburg, N. Y., to the River Rouge, near Detroit. Among the positions to be filled are two masters, for service on light-vessels, one light-house keeper, and two assistant light-house keepers. Persons who wish to apply for either of these positions should obtain a copy of the proper form of application from the office of the United States light-house board, tenth district, Buffalo, either in person or by mail, and after filling it out return it to the same office. Those who have already filed applications need not do so again. Applicants need not appear in person. On June 28, 1898, all applications received will be examined, the applicants graded according to merit, and a list of those eligible for appointment sent to the light-house board, Washington, D. C.

Home Seekers' Low Rate Excursion via the Nickel Plate Road.

To designated points northwest, west and southwest; also to designated points in the south. June 7th and 21st. Ask agents.

No. 57. June 20.

A Ship Model Cutting Machine.

The Detrick & Harvey Machine Co., Baltimore, Md., are constructing for the navy department a model cutting machine, under a contract awarded to them recently. The purpose of this machine is to cut from a built up block of white pine or other suitable wood a model of the hull for a government ship of the same form and dimensions as a light skeleton form. This skeleton is built up of ribs of wood of the proper dimensions and sheathed with thin wood. This machine is about 35 feet long, 20 feet wide and weighs about 40,000 pounds. In a general way it consists of a middle platform, on which is fixed the skeleton model, and above the skeleton is placed a block of wood from which the model of the hull is to be cut. On either side of this platform are two beds, each 35 feet long, on each of which slides a saddle or carriage carrying an electrically driven cutting mechanism with its operator. The work on the model is performed by suitable cutters connected through a parallel motion, and is guided by a former roll bearing against the surface of the skeleton just referred to. This roller follows the lines of the skeleton, and through the parallel motion the cutters accurately duplicate these lines. The cutters are driven by electric motors, as also are the two carriages moved along the beds. After the model has been cut and is practically a duplicate in solid wood of the built up skeleton form, it will be placed in a testing tank now under construction at the Washington navy yard. This tank is about 550 feet long and 60 feet wide. On either side of the tank are tracks, and upon these tracks is placed a model towing carriage driven by electricity to run at various uniform speeds from the slowest up to an actual speed of not less than 2,000 feet per minute. By means of suitable and accurate electrical devices, through the medium of mathematical calculations, displacement of the model, power required to tow it at certain speeds and other necessary data in determining the lines of the hull are ascertained. The lines of the model if not satisfactory can be readily changed, and through further experiments in towing satisfactory results are arrived at. The firm will complete the machine in about three months.

The Captain Who Loses a Ship.

It is the custom with some ship owners never to give a new berth to a shipmaster who has lost a ship. It seems cold-blooded, but the rule is based on reason, as it is claimed that a shipmaster who has lost a vessel is liable to have his nerve affected ever after, and if such is the case he is unfit to exercise the promptness and decision required in moments of emergency. But it is indeed remarkable how luck, or fate, or chance, plays with the careers even of tried and experienced seamen.

Some years ago Capt. Jefferson Maury—who had grown gray in the service of the Pacific Mail Steamship Co. and who was the commodore of their fleet—lost his fine steamer, the *City of Tokio*, when entering the harbor of Yokohama. He had sailed across the Pacific seas for a third of a century without an accident. He was making his last voyage preparatory to an honorable retirement. Yet on that last voyage he lost his ship.

Not long after Capt. Dearborn, another Pacific Mail commander, was taking his ship, the *Peking*, into the same harbor. She was under half speed and in charge of a pilot, the captain being on the bridge. Bearing down upon them was a Chinese junk, and near at hand lay the *Saghalien*, a large Messageries Maritimes steamship. As the junk approached, the Chinese crew, with their awkward seamanship, got into such a position that it was impossible to clear her. The *Peking* would not answer her helm quickly, being under half speed. The pilot was evidently about to run down the junk, but Capt. Dearborn, a most kind-hearted man, resumed charge of the ship, took her away from the pilot and attempted to clear the junk. As a result he ran his steamer into the *Saghalien*, which was at anchor, knocked an enormous hole in her hull, and with tugs she was beached in a sinking condition. She was loaded with tea and silks, having a cargo worth over a million dollars, and the Pacific Mail Steamship Co., without a murmur, paid a bill of several hundred thousands of dollars to the Messageries Maritimes Co., and said nothing about it. Capt. Dearborn, having endangered his own steamer—which, with her cargo, was probably worth a million and a half—and another steamer of greater value, was relieved from his command by the Pacific Mail Steamship Co., and never got another ship. It broke his heart and he died not long afterward.—San Francisco Argonaut.

Complaints About Grosse Point Channel.

There seems to be no diminution in the number of complaints registered against the system of lighting at Grosse point channel, Lake St. Clair. One of the strongest protests yet made has been received by Capt. George P. McKay, treasurer of the Lake Carriers' Association, from Capt. Harry Gunderson, master of the steamer *James B. Neilson* of the Bessemer Steamship Co.'s fleet.

Capt. Gunderson writes: "There are no lights to guide vessels through the channel, during fully half the time, owing to the fact that the range lights are so frequently obscured by smoke. For instance, about 2 o'clock on the morning of May 17, when bound down, I, upon approaching the light-ship, saw ahead of me another steamer, also bound down. I was totally unable to distinguish the range lights and consequently started through the channel slowly and steering compass. About half way through the channel the steamer ahead grounded in the mud on the port bank of the channel, and, as I had a barge in tow and could not stop, a serious accident was narrowly averted. On this occasion I traversed two-thirds of the length of the channel before I could discern the range lights, and have since been told by a number of masters who have tows to handle that they invariably let go their anchor in Lake St. Clair and remain all night rather than take the chances of going on the bottom. I hope that you will do all in your power to help us get some lights on the bank of the channel."

A steel steam yacht, 148 by 21½ by 11½ feet, launched a few days ago at Lewis Nixon's ship yard, Elizabeth, N. J., is said to be for John D. Crimmins of New York, but the builder would neither affirm nor deny a report to that effect.

Mechanical Rubber Goods.

A few years ago the big pump concerns and the dealers in steam specialties of various kinds depended upon a few of the leading hardware houses and machinery supply stores in lake cities to handle their products, not only for the lake trade, but also among manufacturers and in the numerous stationary engine plants. But, as in all other lines of trade, these industries have grown to such an extent that the large concerns now have branch houses that carry complete stocks under the supervision of direct representatives. The tendency toward this method of conducting large sales enterprises is especially remarkable in machinery lines. Take, for instance, the mechanical rubber goods industry as conducted by the Manhattan Rubber Mfg. Co. of New York. The lake business of this firm is handled through branch sales rooms in Cleveland and Chicago and by sales agents at several other leading ports. The Cleveland branch was opened in the Wade building, about a year ago, but the business increased with such rapidity that it was found necessary, a few weeks since, to seek larger quarters. The Cleveland branch now occupies one of the finest salesrooms in the city—the ground floor of the new Telephone building, corner of Seneca and Champlain streets. It is managed by Mr. Alfred C. Bliss, who has had a wide experience in the rubber trade and is thoroughly familiar with all its details and requirements. Since opening the Cleveland branch, Mr. Bliss has met with excellent success. His territory covers northern Ohio. Factories of the Manhattan company at Passaic, N. J., possess excellent facilities for manufacturing all kinds of mechanical rubber goods, including marine valves, steam packing, water and steam hose, linen and cotton hose for fire purposes, rubber tiling, perforated mats, etc. Their products are of the highest quality and are finding sale in all parts of the world. At the international exposition, held at Atlanta, Ga., in 1895, this firm had a complete exhibit. It was presented in competition with many other manufacturers in the same line, but the Manhattan company was awarded the first prize, a gold medal.

A Competitor for First Place on the Atlantic.

The North German Lloyd steamer Kaiser Friedrich, which is expected to compete with the Kaiser Wilhelm der Grosse of the same line during the coming summer for first place among ocean greyhounds, will be among the most powerful ships afloat. She was built at the works of Messrs. Schichau of Elbing, and is 600 feet over all, 64 feet beam and 41 feet depth. Her tonnage is 12,800 gross, with a displacement of 17,000 tons at a draught of 28 feet. She is built of steel, and has a double bottom extending from stem to stern, and her hull is divided into eighteen water-tight compartments. Her engines consist of two independent sets of quadruple-expansion five-cylinder type, acting upon three cranks. The diameter of the cylinders is as follows: High pressure, 43¼ inches; first intermediate, 64¼ inches; second intermediate, 92 1-8 inches; and two low pressure of 93¼ inches each. The total horse-power of the two engines is 25,000 indicated, and they each drive a three-bladed propeller with manganese bronze blades. The propeller and crank shafts are of Krupp nickel steel. To ensure better trim and lessen vibration the engine room is situated amidships, with a boiler compartment ahead and astern of it. Steam at a working pressure of 225 pounds per square inch is supplied by nine cylindrical double-ended boilers, and one single-ended boiler, arranged in three groups, each in a separate water-tight compartment. The total heating surface is 73,000 square feet, and Howden's system of hot draught is that employed in the stokeholds. She has accommodations for 1,400 passengers. Arrangements for passengers are similar to those of the Kaiser Wilhelm der Grosse.

A rumor emanating from Key West is to the effect that the Spanish prize ships captured by Admiral Sampson's fleet will be sent to New York and sold at auction. This has, of course, resulted in speculation regarding "bargains" in first-class steamships.

Two new tug boats, building for the M. Moran Towing Co. of New York by Neafie & Levy of Philadelphia, will be ready for service in July.

"Summer Outings," published by Nickel Plate road and prepared by Advertect Horner, is neat and attractive, the cover being one of the most artistic ever put on a booklet. The contents mention and illustrate places between Buffalo and Chicago where an inexpensive and restful vacation may be spent. Anyone sending a postal card request giving name and address will receive a copy.

Trade Notes.

At the Roach ship yard, Chester, Pa., the pay roll has reached \$9,000 weekly, or at the rate of nearly half a million dollars annually.

A tug for the Boston Towboat Co. is under construction at Baltimore. The new vessel will be 78 feet over all, and of the most modern construction in every respect.

The Richelieu & Ontario Navigation Co.'s new passenger steamer, building at the Bertram engine works, Toronto, for St. Lawrence river service, will be launched during the present month.

Lake friends of Commander B. P. Lamberton, U. S. N., who is with Admiral Dewey, will be pleased to learn that he has been given command of the Olympia, flagship of the Asiatic squadron.

The keel for another large steel sailing vessel will be laid at the Sewall yards at Bath, Me., as soon as the vessel now under construction is completed. The latter will be christened Erskine M. Phelps, in honor of a Chicago railroad and real estate man who is one of the owners of the vessel.

A fast steam yacht for use on the Mississippi river will be completed about the middle of next month at the works of Edward Reese & Son, Carondelet, Mo., for H. A. Bush of St. Louis. The vessel is 84 feet long and is expected to attain a speed of 23½ statute miles an hour. She will have a Roberts water tube boiler.

Few of the acquaintances of Mr. B. F. Horner, general passenger agent of the Nickel Plate Railway, know that he was once the press boy in the office of a country newspaper, a fact disclosed in a biographical sketch that appears in the current number of the American Traveler, published in Chicago. Mr. Horner began his railroad career as a brakeman.

The users of the Buffalo Forge Co.'s blacksmith tools are evidently appreciative. Among letters recently received by that company is one from Henry Gilles of St. Jacobs, Ont., who says: "I have had in use two of your blowers in the last nine years, and I am very much pleased with them. I would not part with them so long as I work at blacksmithing for any ten bellows. I used bellows a good many years before I got your blowers, so that I know what they are."

A two-story power house, 50 feet square, built by the Berlin Iron Bridge Co. of East Berlin, Conn., for the Bryant Electric Co. of Bridgeport, Conn., involves several important features of modern construction. The building has brick side walls, and the framework is of steel skeleton type. The floor of the building is supported on heavy girders and columns, which carry steel joists supporting corrugated iron arches and concrete floor. The roof has clear span trusses carrying corrugated iron covering, lined with patent anti-condensation roof lining, which prevents the condensation of moisture on the underside of the roof covering, and avoids any damage or inconvenience from moisture dropping on the delicate machinery or material on the floor below.

The firm of Henry R. Worthington expects soon to operate its extensive hydraulic works in Brooklyn by electric motors instead of the large number of stationary engines now used. Power will be taken from the new central station of the Edison Electric Illuminating Co. of Brooklyn reaching the Worthington works through wires laid in a subway, carrying an alternating current of 6,000 volts. The 6,000-volt current will be reduced to two currents of 110 and 220 volts. A portion of this current will be utilized for operating the existing lighting system and the remainder will be used for power. Aside from the economy which may be effected, it is believed that more prompt delivery of work can be made, as it will be possible to run any section of the works for a short time or throughout the night without holding the entire force of the company's power department.

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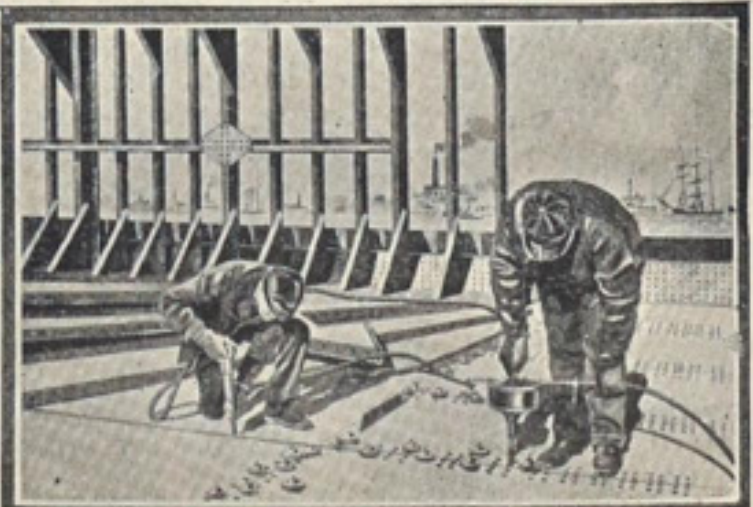
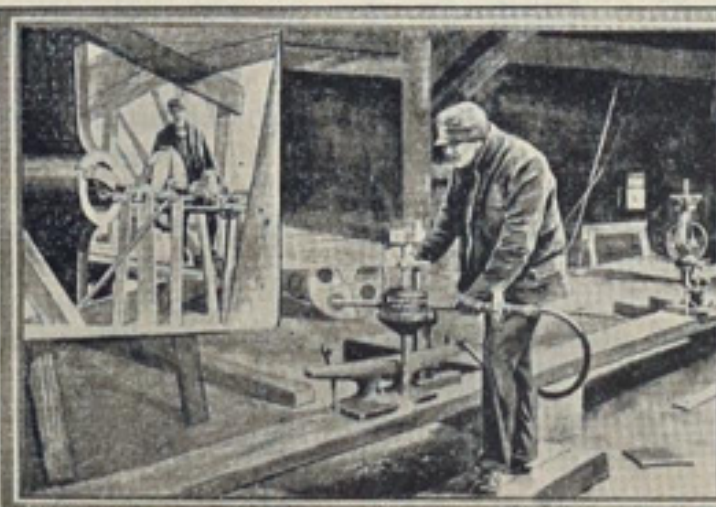
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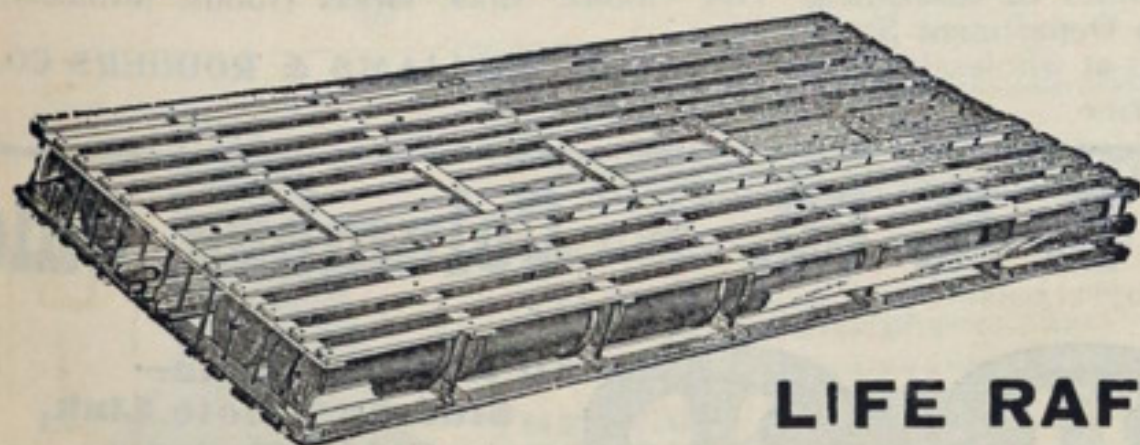
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Insurance Company of North America.

CAPITAL, Paid up in Cash, - - \$3,000,000.00
ASSETS, 10,023,220.93

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GEORGE L. McCURDY, Manager
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The Rochester & Pittsburgh Coal & Iron Co.

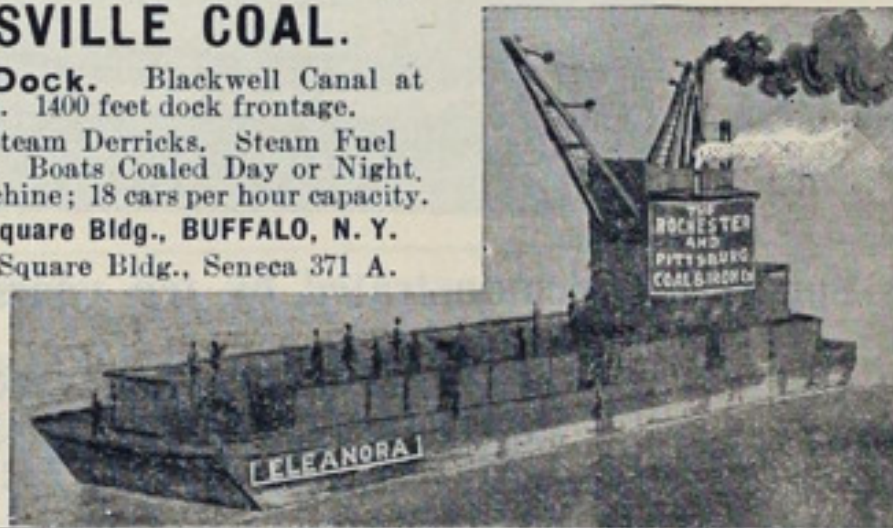
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Steamboat Fuel Dock. Blackwell Canal at Michigan St. Bridge. 1400 feet dock frontage.

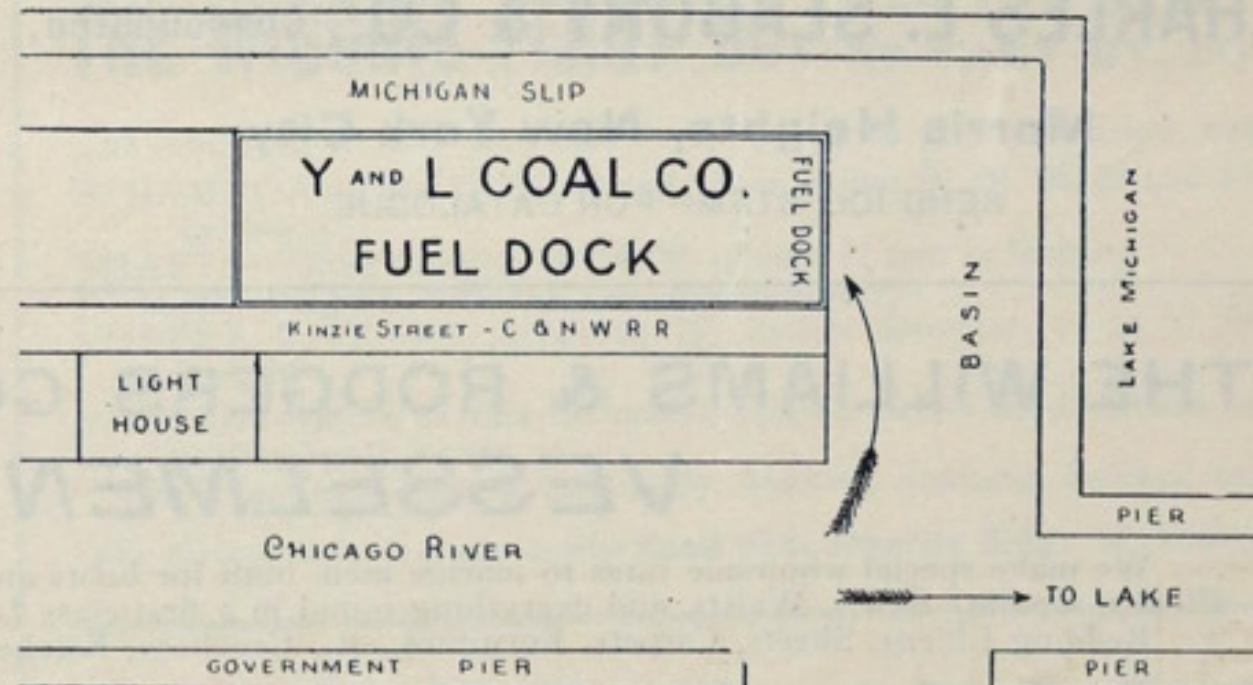
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J. A. DONALDSON, Mgr. N. J. BOYLAN, Dock Mgr.

Latest Dock and Lighter equipment for rapid fueling.

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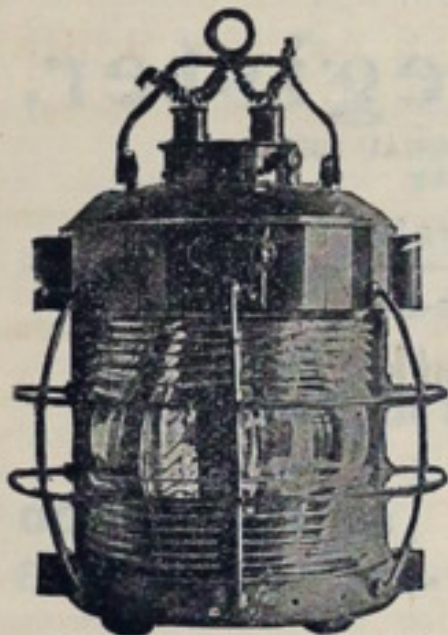
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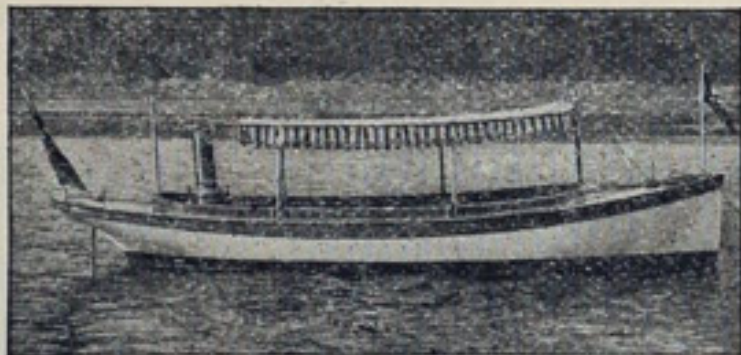
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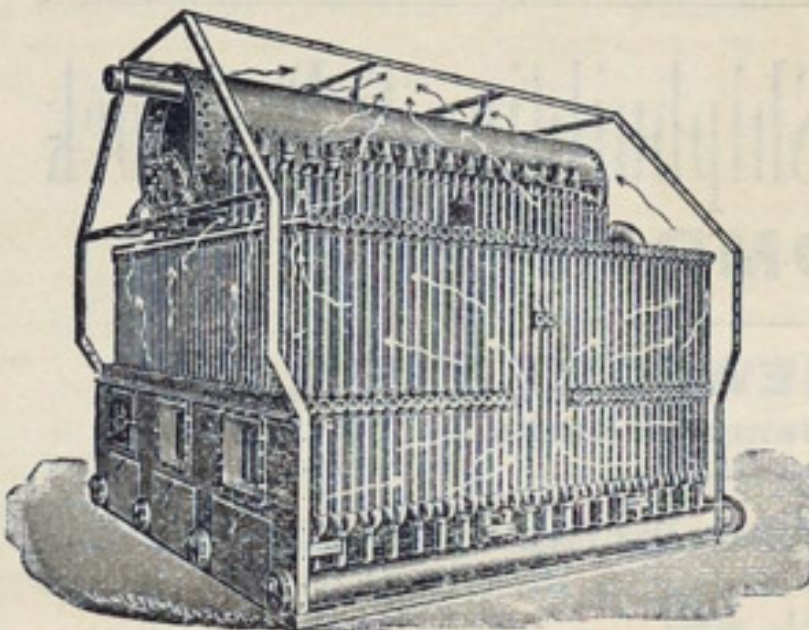
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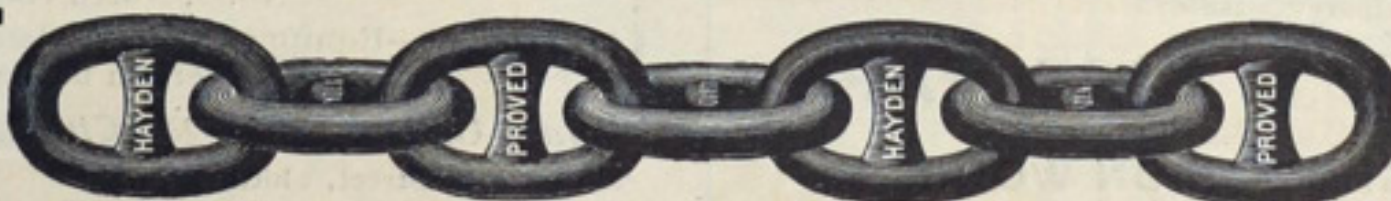
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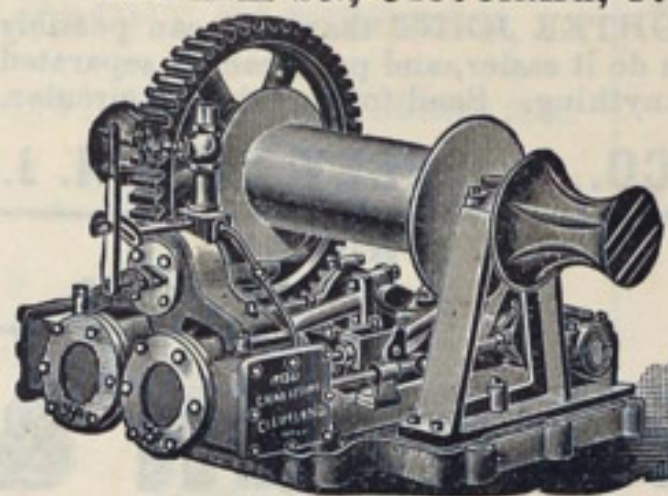
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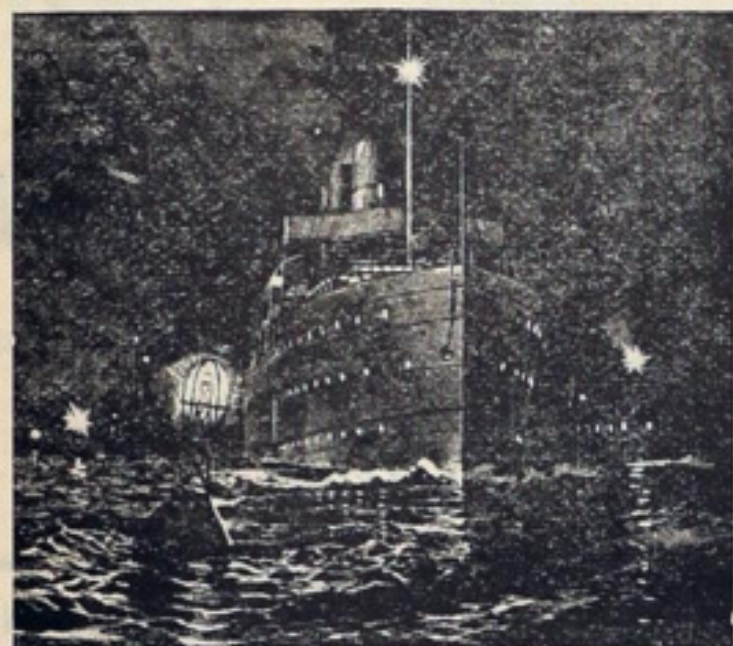
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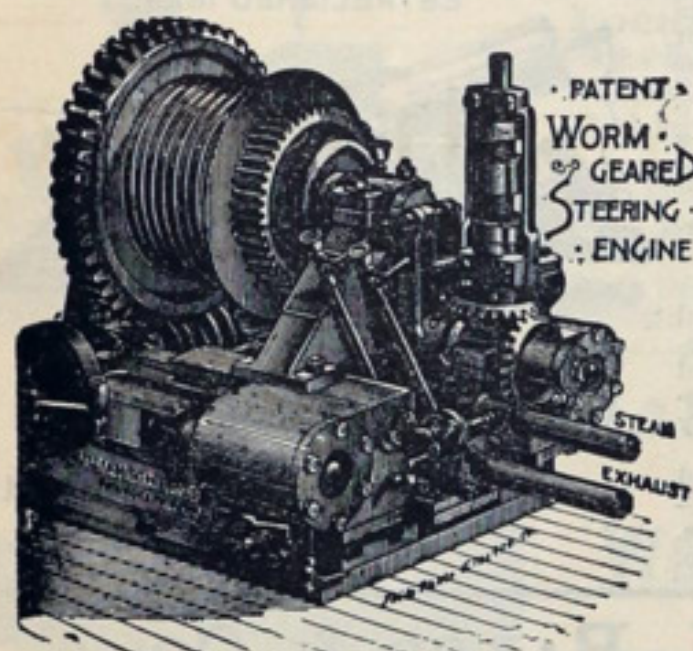
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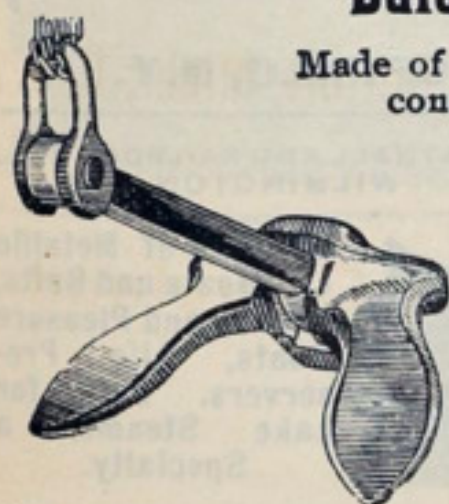
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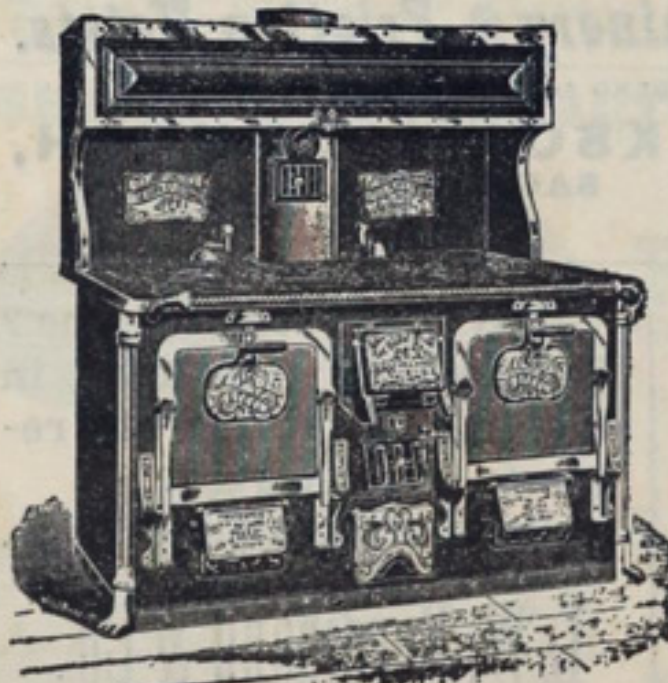
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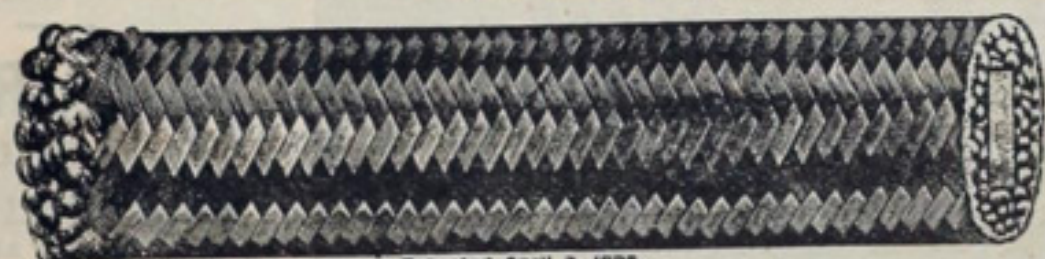
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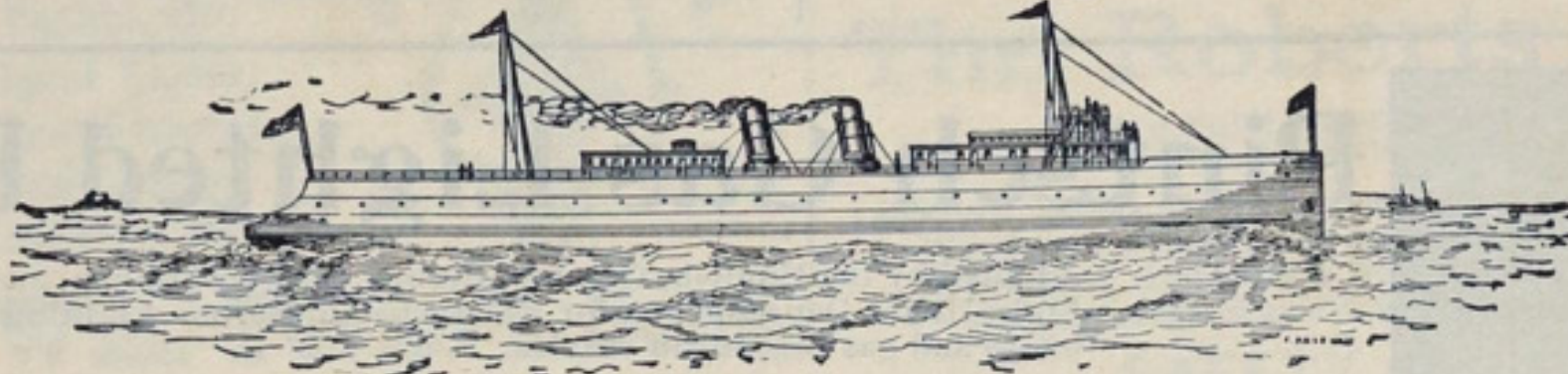
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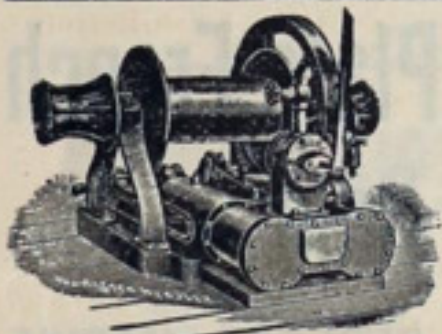
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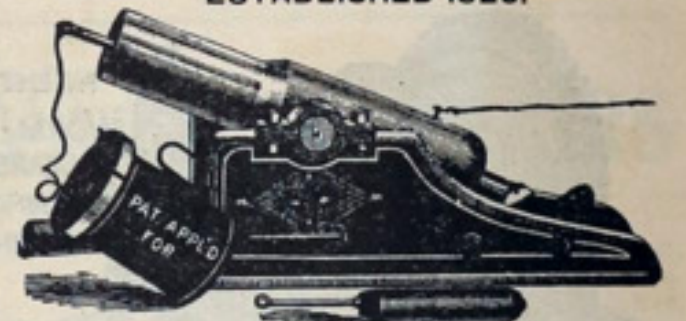
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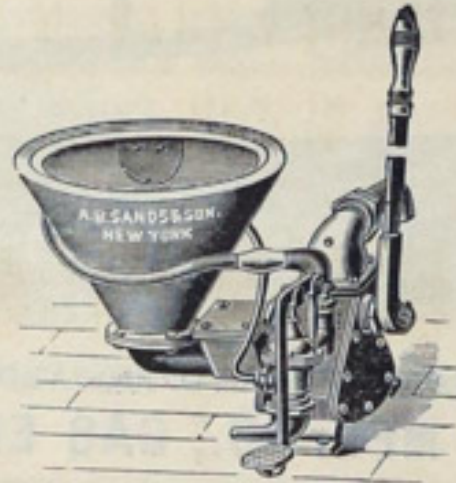
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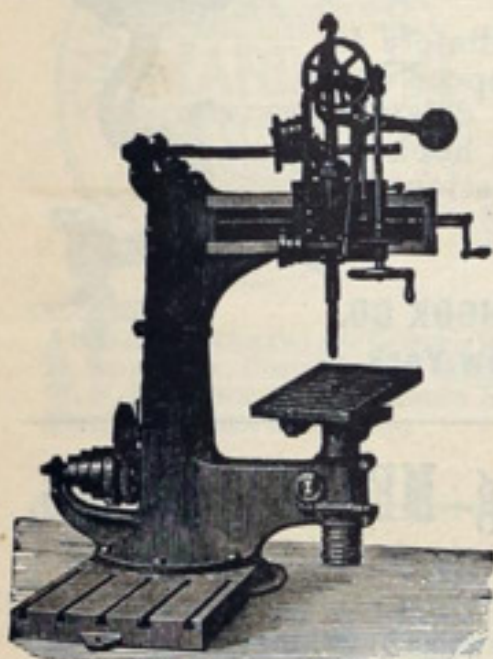
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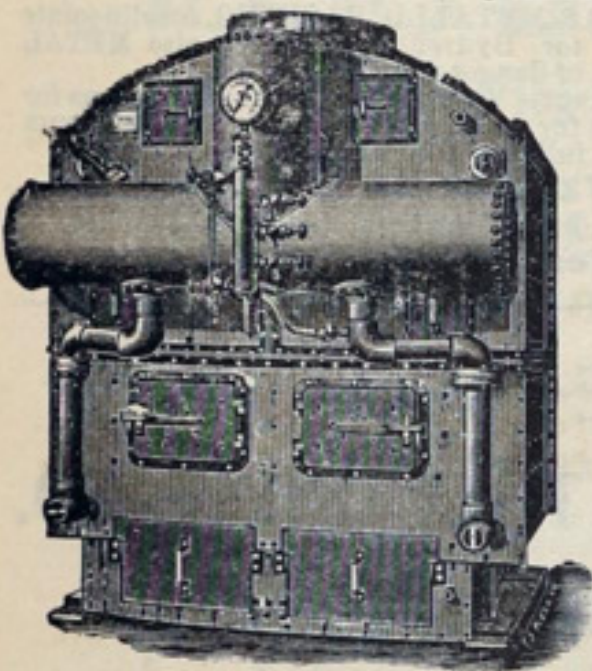
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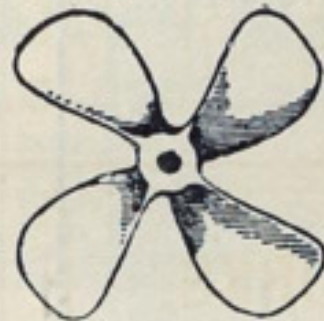
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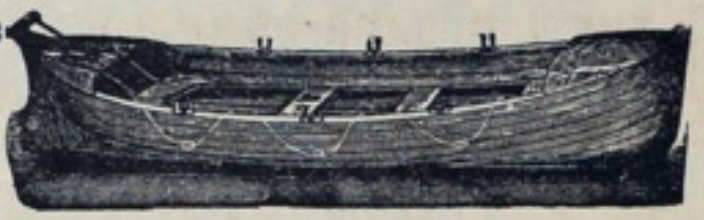
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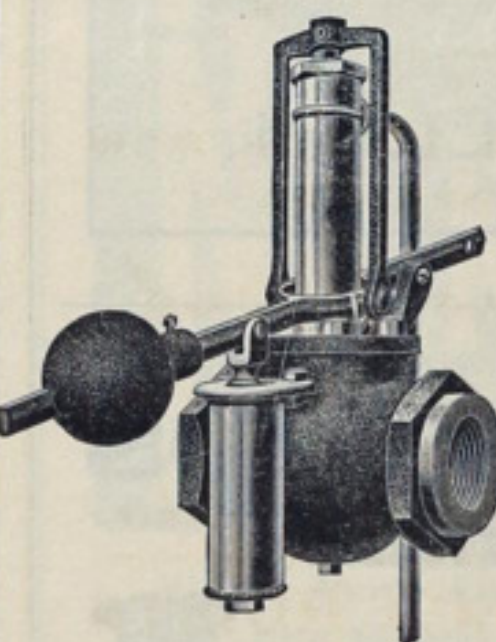
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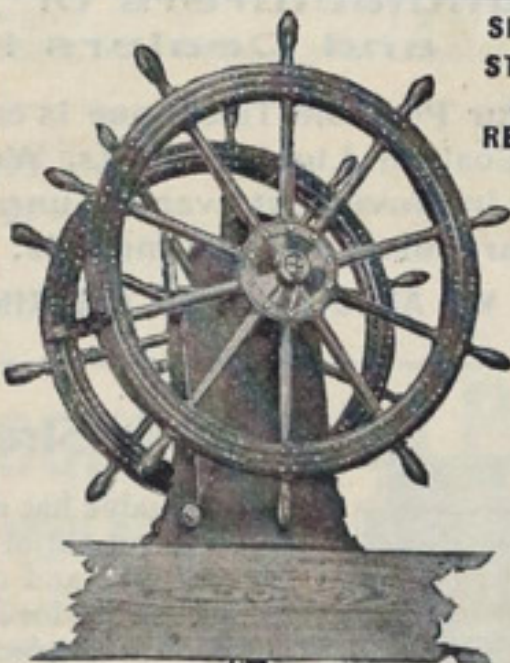
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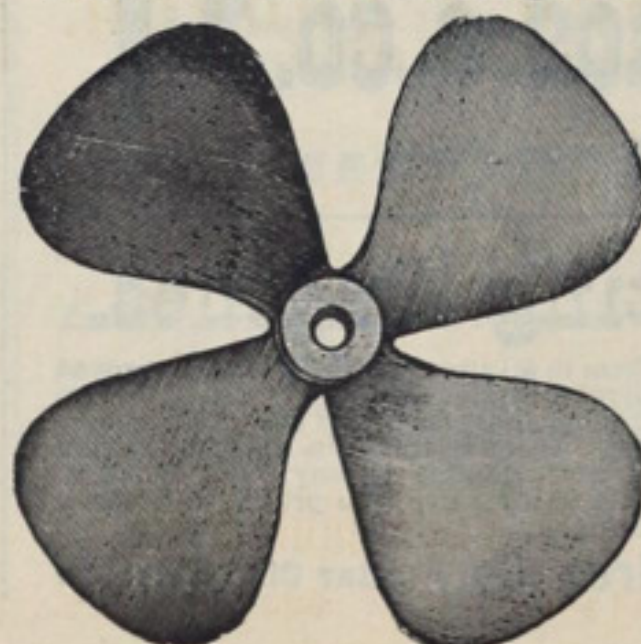
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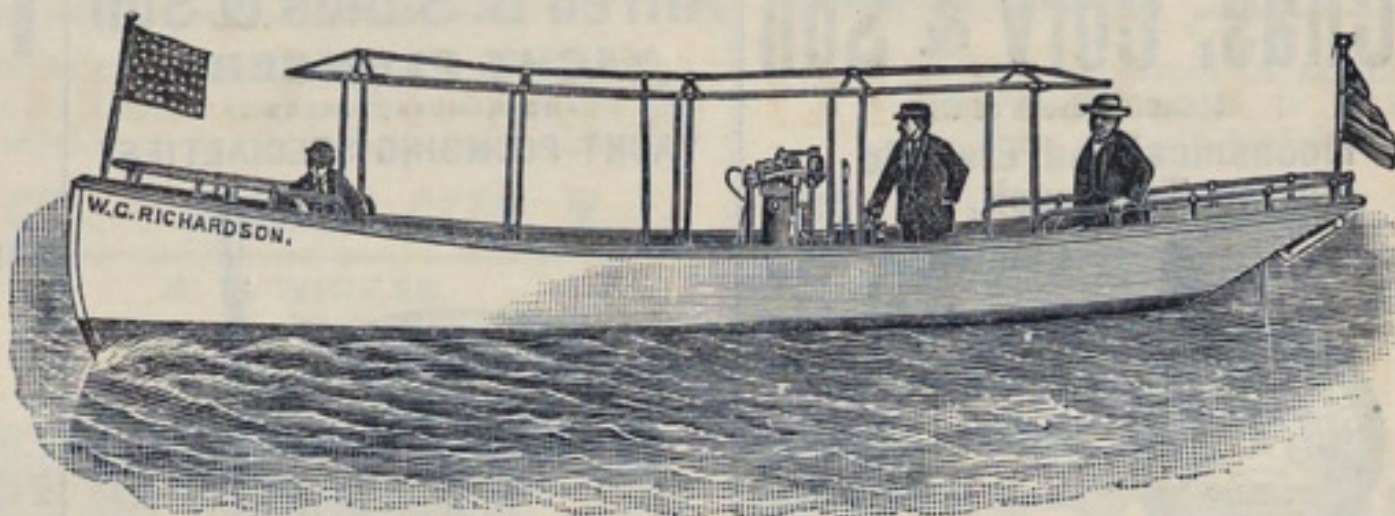


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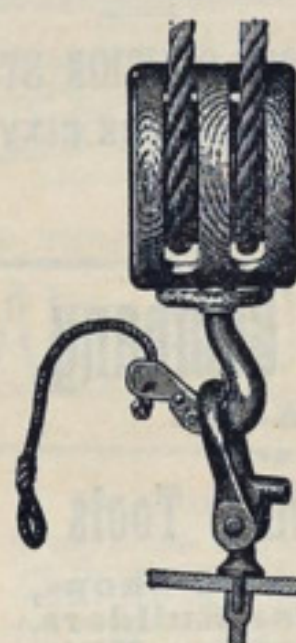
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ALL TIMES

1898 JUNE 1898						
SUN	MON	TUES	WED	THUR	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
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19	20	21	22	23	24	25
26	27	28	29	30		

10-100 TON JACKS
1-12 INCH HAWSER.
1-10
1-9

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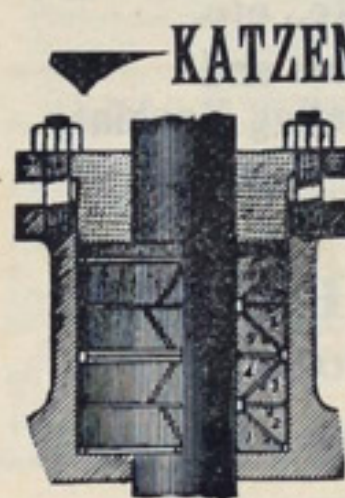


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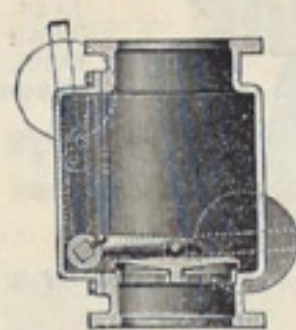
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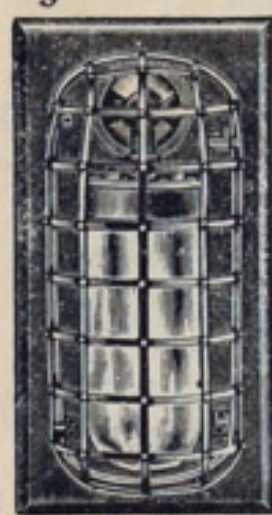
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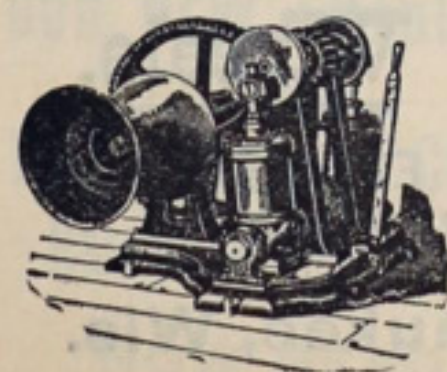
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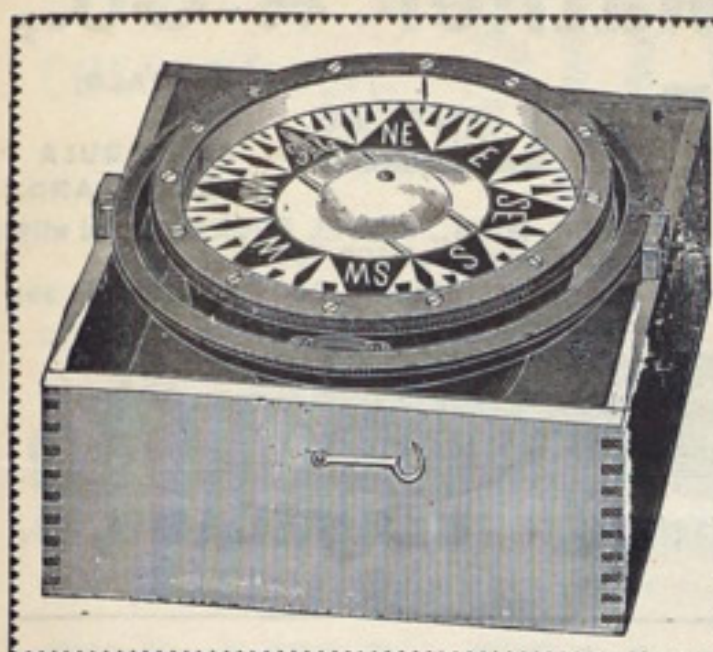
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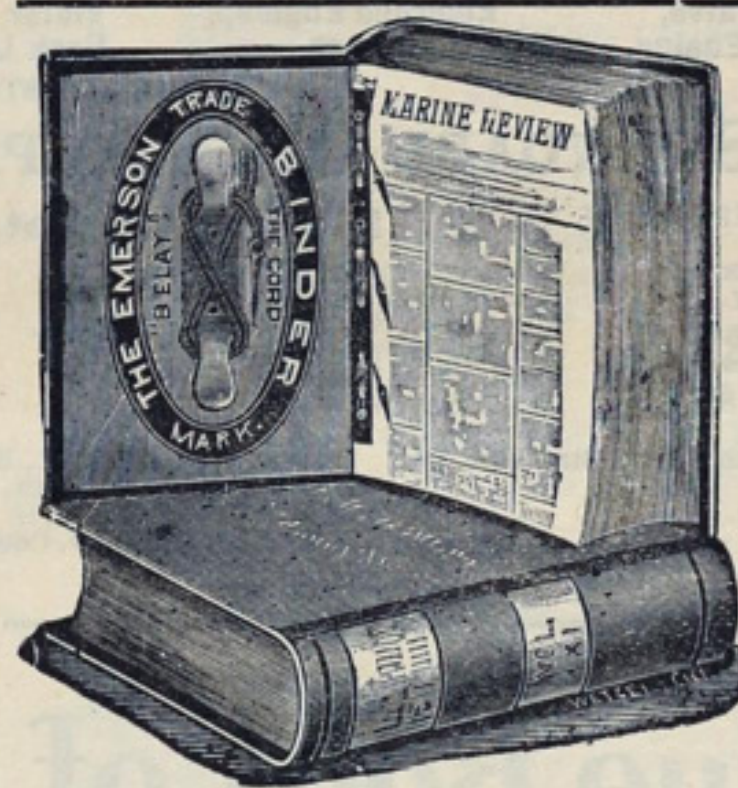
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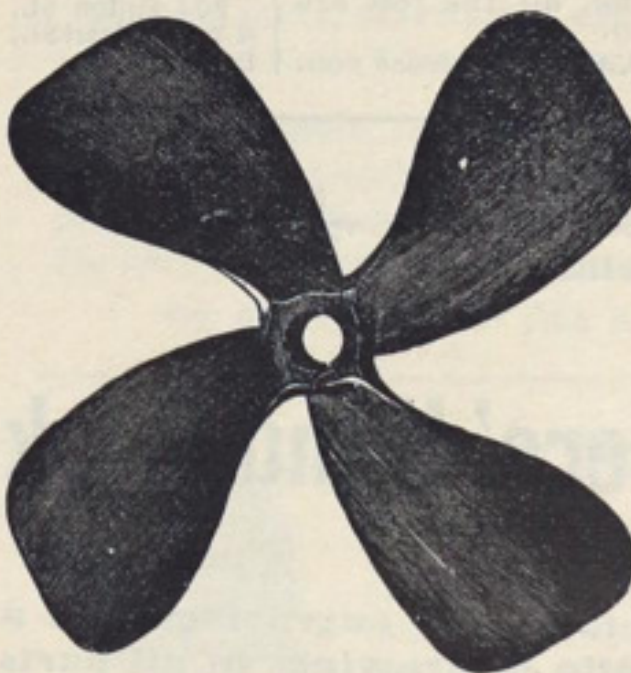
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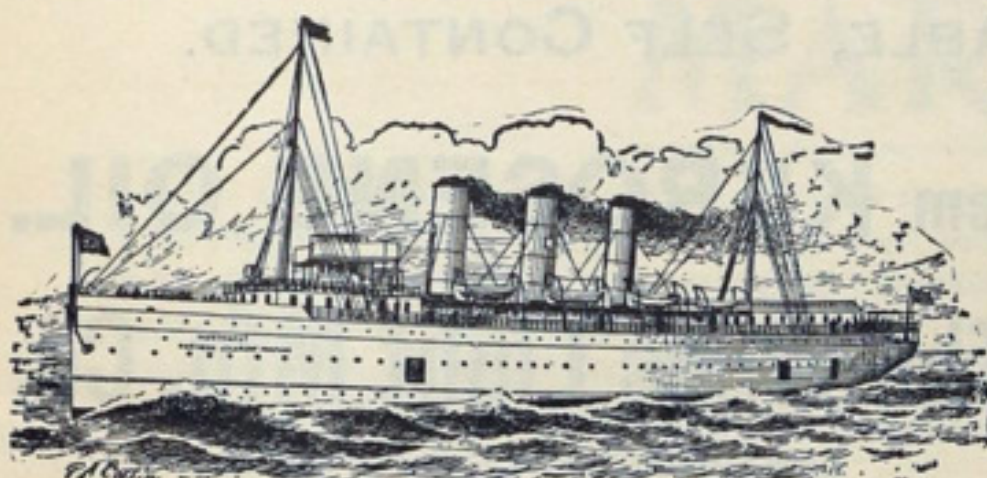
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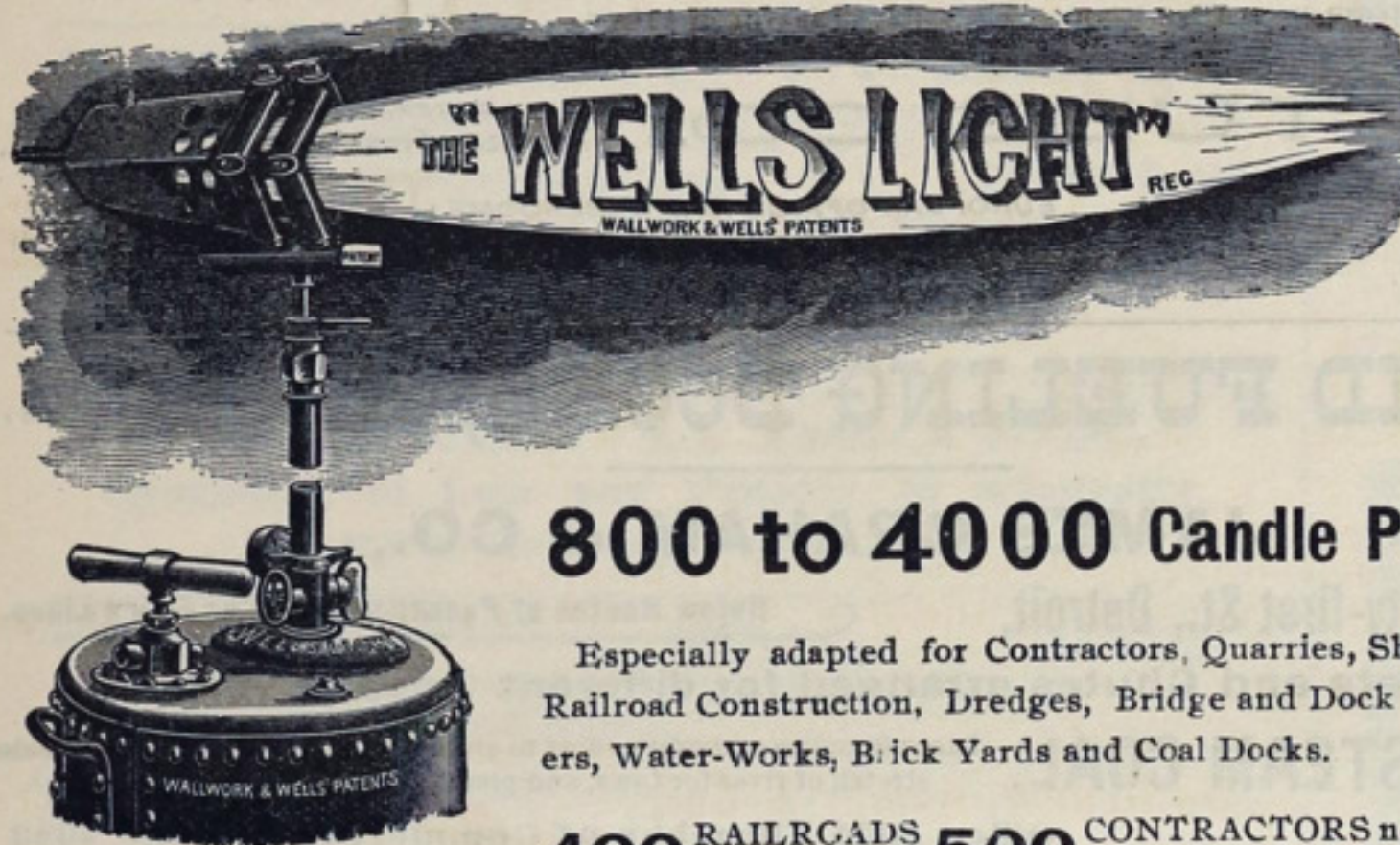
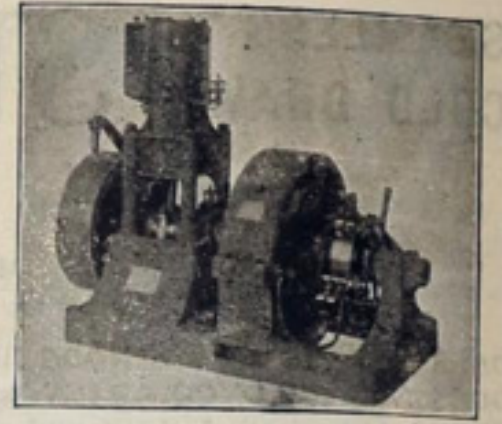
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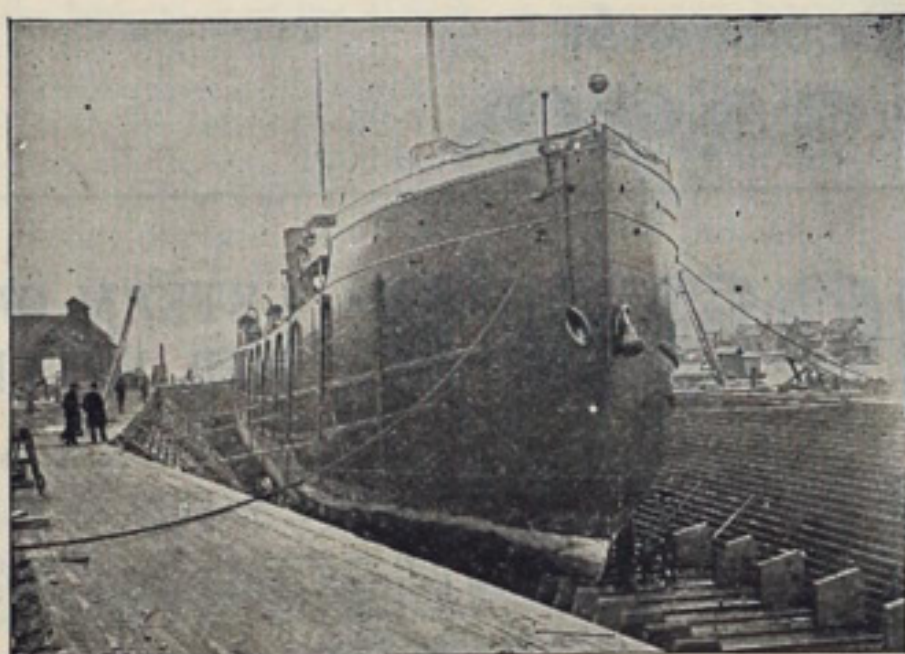
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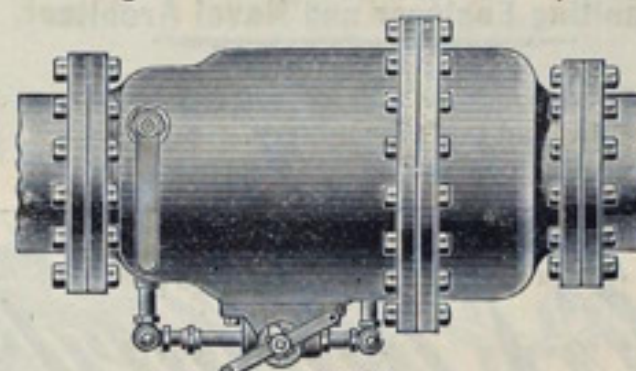
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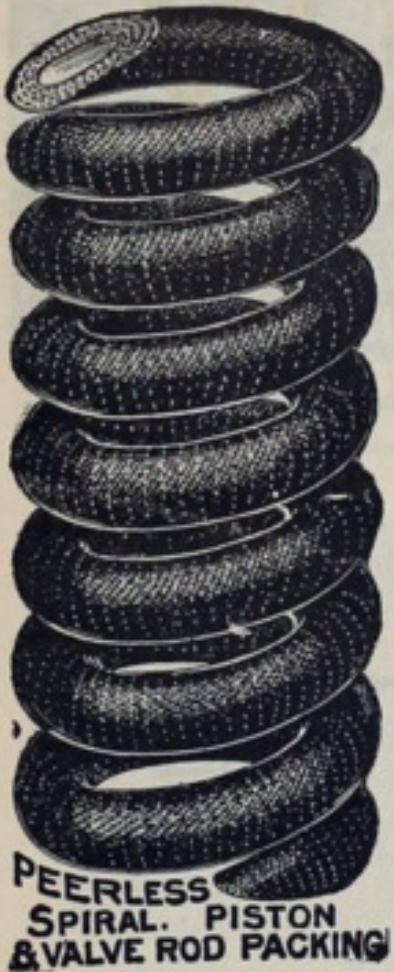
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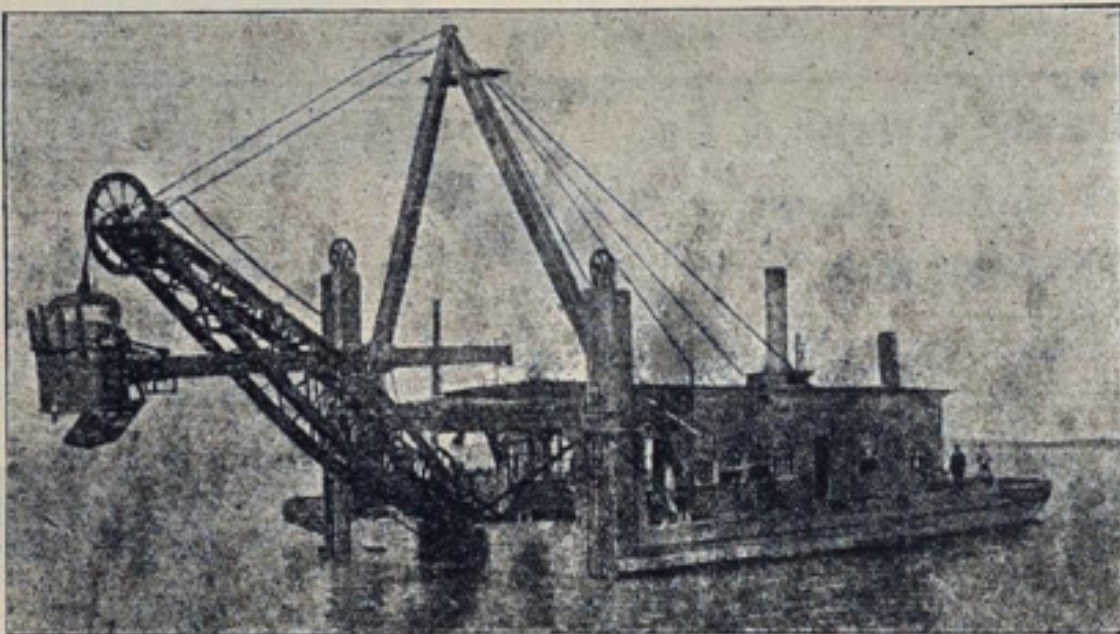
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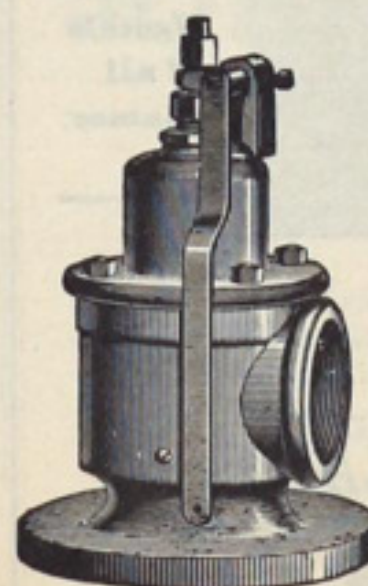
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